SENSORS IN ACTION

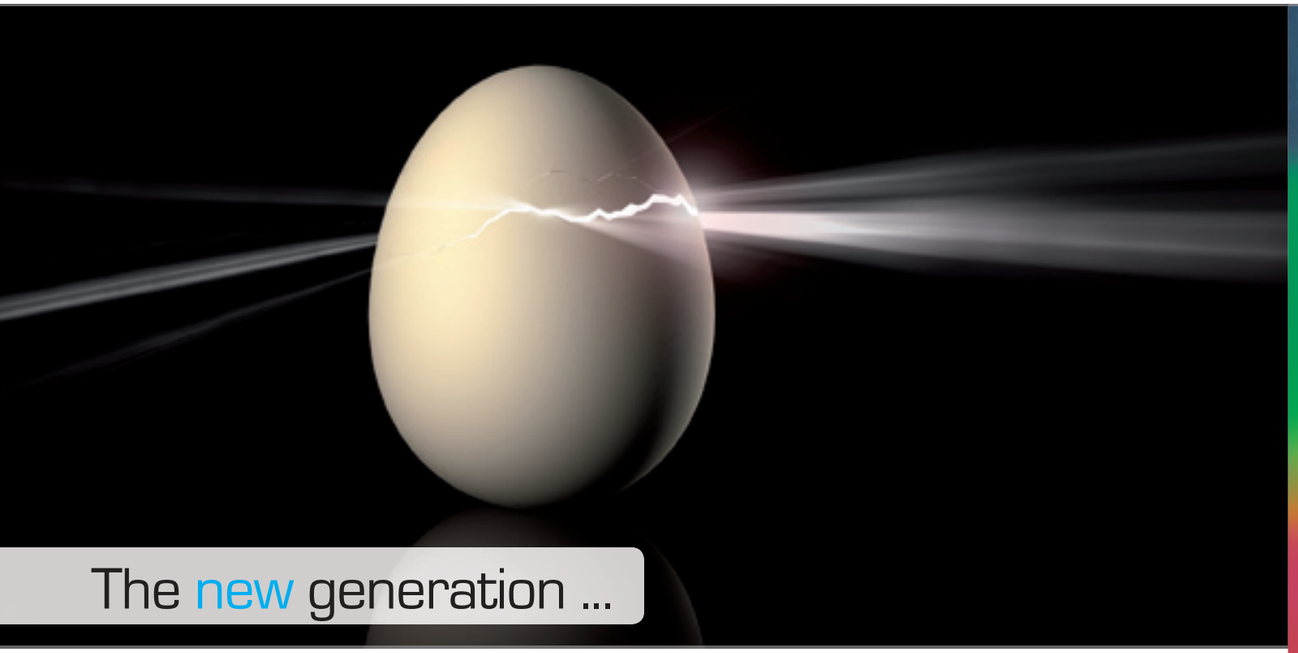
di-soric

Compact Catalog

di-soric

Content

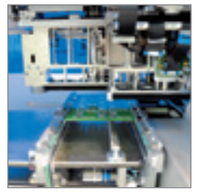
Innovative products
for your automation

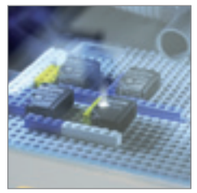


... for a mobile future

di-soric presents a new generation of high-quality movement sensors for indoor and outdoor use. This innovative range of products opens up completely new possibilities in non-contact detection and measuring of motion.

Further information on page 30.





High-performance and competent

The **di-soric / di-el** corporate group has successfully been involved in the application, support, development and production of standard and special sensors for industrial automation for more than 25 years. Today, we are one of the largest manufacturers of sensors.

Our family-run companies currently employ more than 140 members of staff at two sites. The company headquarters are located in Urbach, east of Stuttgart (picture below), while our development and production site is in Lüdenscheid, south of Dortmund (pictured on the right).

Thousands of customers rely on di-soric products in Germany alone, and several thousand more world wide.

Our customer base includes small and medium-sized companies as well as international corporate groups and numerous car manufacturers.

Our products have unique selling points which are of great use to our customers, particularly the well-known and popular fork light barriers, which were invented by us more than 20 years ago and are continuously being further developed.

We continue to offer the most extensive and most powerful range of products.

Other highlights are featured in this product overview. "di-soric lights" forms a new product line. Creating customised designs is another particular strength in our production department.

In Germany, customers are advised and supported by more than 35 technicians and engineers, while foreign customers are served by more than 40 qualified authorised dealers. This competent team always guarantees customer proximity – even providing an aftersales service. Friendly and helpful staff in-house, competent technical advice on the phone or at your premises, a highly efficient warehouse and a quick delivery service are just a few of the many reasons why our customers value us.

We don't just see ourselves as a supplier to our customers, but also as a partner.

Use this partnership to your advantage.

The Eisemann family

Qualitätsmanagement ISO 9001:2008

Sales, warehouse and administration in Urbach

Development and production in Lüdenscheid

International Sales Network

Europe
Asia
Australia
North America
South America
Africa

Find the appropriate product – easily online

By means of the **di-soric** product finder you easily can select our products any time.

A clear structure in connection with intelligent search function allows for a simple indentification of the matching product. By means of that product finder and the technical features the matching product can be selected. The product direct selection allows the systematic search for a specific catalogue description or parts hereof.

Log on and check out our website today!

www.di-soric.com

Catalogue survey product direct selection and product search

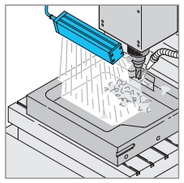
Detailed product page contains all important information

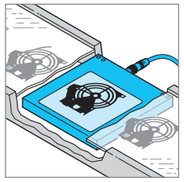
Optimum lighting for all uses

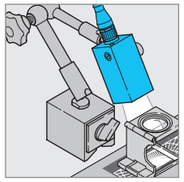
di-soric provides an extensive range of lighting for industrial applications.
The internal power output control ensures a constant level of light intensity over the entire voltage range. These light elements are perfectly suited as support for image processing systems or inspection work as well as illumination of workstations or machines. di-soric lights are very robust and have a high protection class.

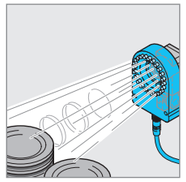
Lighting

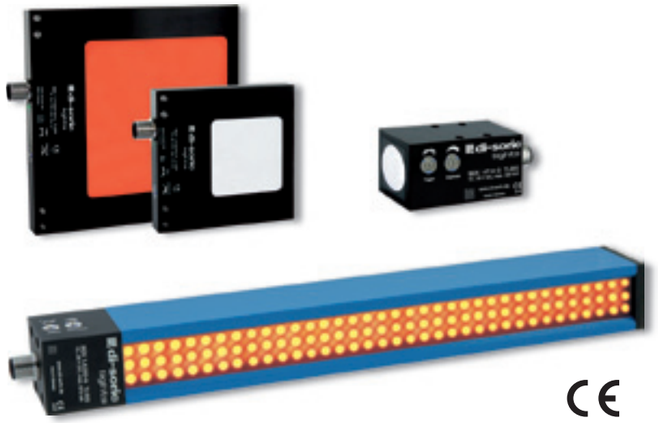
- Internal control of power output
- Homogeneous luminous field
- High protection class IP 67
- External trigger input
- High efficiency
- Low levels of heat produced
- Adjustable light intensity
- Various options of mounting
- Light colours: white, red, infrared, blue, green
- Sturdy casing design



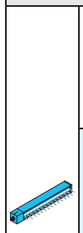








Technical data (typ.)	+20 °C, 24 V DC
Trigger frequency	1.500 Hz
Trigger input low level	0 … < 2,8 V
Trigger input high level	> 3,3 … 35 V
Shock/vibration loading	30 g_n/10 – 55 Hz, 1 mm
Ambient temperature	0 … +50 °C
Casing material	Aluminium / Polyamide (only BEK 1-P10 …/BEK 1-R …)

	Illuminated area/lenght (mm)	Angle of reflected beam (°)	Size (mm)	Light colour	Service voltage (V DC)	Trigger, pnp/npn switchable	Protection class	Internal power consumption at 10 V DC (mA)	Internal power consumption at 15 V DC (mA)	Internal power consumption at 24 V DC (mA)	Power at 10 … 35 V DC (W)	Power at 15 … 35 V DC (W)	Purchase order table *
Back lights													
	50 x 50	–	90 x 93,5 x 15	Infrared, 850 nm	10 … 35	■	IP 67	–	–	–	–	–	BEK 1-F50/50-G0TI-IBS
				Red light, 625 nm				310	–	130	3,4	–	BEK 1-F50/50-G1TI-IBS
				White light, 5600 K				300	–	130	3,3	–	BEK 1-F50/50-G5TI-IBS
	100 x 100	–	140 x 143,5 x 15	Infrared, 850 nm	10 … 35	■	IP 67	460	–	200	5,0	–	BEK 1-F100/100-G0TI-IBS
				Red light, 625 nm				570	–	240	6,0	–	BEK 1-F100/100-G1TI-IBS
				White light, 5600 K				600	–	240	6,0	–	BEK 1-F100/100-G5TI-IBS
Bar lights													
	300	–	40 x 40 x 345	Infrared, 850 nm	15 … 35	■	IP 65	–	–	–	–	–	BEK 1-A300-G0TI-IBS
				Red light, 624 nm				–	380	250	–	6,0	BEK 1-A300-G1TI-IBS
				Green light, 527 nm				–	570	360	–	9,0	BEK 1-A300-G2TI-IBS
				Blue light, 470 nm				–	570	360	–	9,0	BEK 1-A300-G3TI-IBS
				White light, 9000 K				–	570	360	–	9,0	BEK 1-A300-G5TI-IBS
	400	–	40 x 40 x 445	Infrared, 850 nm	15 … 35	■	IP 65	–	–	–	–	–	BEK 1-A400-G0TI-IBS
				Red light, 624 nm				–	530	340	–	8,5	BEK 1-A400-G1TI-IBS
				Green light, 527 nm				–	820	500	–	12,5	BEK 1-A400-G2TI-IBS
				Blue light, 470 nm				–	820	500	–	12,5	BEK 1-A400-G3TI-IBS
				White light, 9000 K				–	820	500	–	12,5	BEK 1-A400-G5TI-IBS
	500	14 °	40 x 40 x 545	Infrared, 850 nm	15 … 35	■	IP 65	–	650	380	–	10,0	BEK 1-A500/14-G0TI-IBS
		–		Infrared, 850 nm				–	–	–	–	–	BEK 1-A500-G0TI-IBS
				Red light, 624 nm				–	650	400	–	10,0	BEK 1-A500-G1TI-IBS
				Green light, 527 nm				–	1070	620	–	16,0	BEK 1-A500-G2TI-IBS
				Blue light, 470 nm				–	1070	620	–	16,0	BEK 1-A500-G3TI-IBS
				White light, 9000 K				–	1070	620	–	16,0	BEK 1-A500-G5TI-IBS
Spot lights													
	–	10 °	35 x 60 x 20	White light, 5600 K	10 … 35	■	IP 67	120	–	70	1,7	–	BEK 1-P10-G5TI-IBS
	–	14 °	30 x 32 x 60	Infrared, 850 nm	10 … 35	■	IP 67	190	–	90	2,3	–	BEK 1-P14-G0TI-IBS
				Red light, 625 nm				260	–	120	3,0	–	BEK 1-P14-G1TI-IBS
				Green light, 528 nm				320	–	140	3,5	–	BEK 1-P14-G2TI-IBS
				Blue light, 470 nm				320	–	140	3,5	–	BEK 1-P14-G3TI-IBS
				White light, 5600 K				320	–	140	3,5	–	BEK 1-P14-G5TI-IBS
	–	30 °	30 x 32 x 60	Infrared, 850 nm	10 … 35	■	IP 67	190	–	90	2,3	–	BEK 1-P30-G0TI-IBS
				Red light, 625 nm				260	–	120	3,0	–	BEK 1-P30-G1TI-IBS
				Green light, 528 nm				320	–	140	3,5	–	BEK 1-P30-G2TI-IBS
				Blue light, 470 nm				320	–	140	3,5	–	BEK 1-P30-G3TI-IBS
				White light, 5600 K				320	–	140	3,5	–	BEK 1-P30-G5TI-IBS
Ring lights													
	ø 50	–	80 x 110,5 x 20	Infrared, 850 nm	10 … 35	■	IP 67	370	–	170	3,7	–	BEK 1-R50-G0TI-IBS
				Red light, 624 nm				210	–	90	2,1	–	BEK 1-R50-G1TI-IBS
				Green light, 527 nm				290	–	130	3,0	–	BEK 1-R50-G2TI-IBS
				Blue light, 470 nm				290	–	130	3,0	–	BEK 1-R50-G3TI-IBS
				White light, 9000 K				290	–	130	3,0	–	BEK 1-R50-G5TI-IBS

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

Total systematic view

di-soric photoelectric sensors are the optimum solution for all tasks in automation technology. The most diverse designs and operating principles allow for a perfect, wide range of applications.

Through beam sensors

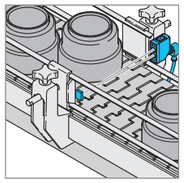
- High resolution
- Ranges up to 50 m
- Alignment aid
- Stainless steel casing with protection class IP 69K

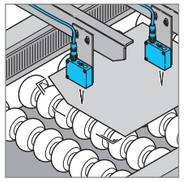
Retroreflective sensors

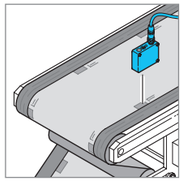
- High resolution
- Ranges up to 10 m
- Potentiometer or teach function
- Stainless steel casing with protection class IP 69K

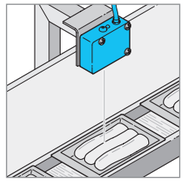
Diffuse sensors

- Contrast sensor with white light LED
- High resolution
- Sensing distance up to 2 m
- Background suppression
- Potentiometer or teach function
- Functional reserve/ contamination indicator
- Stainless steel casing with protection class IP 69K









Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 30 V DC
	some versions with extended service voltage range 10 … 35 V DC

	Operating distance, Setting range (mm)	Size (mm)	Sensitivity adjustment by means of	Transmitter (S)/Receiver (E)	Red light, clocked	Infrared light, clocked	White light	Output	Ambient temperature (°C)	Protection class	Casing material	Connector	Connecting cable	Purchase order table*
	Diffuse sensors, energetic													
	… 10	Ø 4,0	–			■		pnp, 100 mA, NO	0 … +55	IP 67	Stainless stell V2A		–	OTV 40 V 10 P1K
	… 20	M8	–			■		pnp, 100 mA, NO	0 … +55	IP 67	Stainless stell V2A	M8	TK …	OTV 05 V 20 P1K-TSSL
	… 50	40 x 5 x 7	–			■		pnp, 100 mA, NO	0 … +55	IP 67	Stainless stell V2A	–	TK …	OTV Q5 M 50 P1LK
	… 400	M18	Poti			■		pnp, 100 mA, NO/NC	–25 … +50	IP 66	ABS	M12	VK… /4	OT 6-18 K 400 P3K-BSL
											Metal			OT 6-18 M 400 P3K-BSL
	100 … 500	50 x 40 x 15	Poti		■			pnp, 200 mA, NO/NC	–10 … +60	IP 67	Die-cast zinc	M12	VK…	OTV 51 M 500 P3K-IBS
														OTVTI 51 M 500 P3K-IBS
	100 … 500	60 x 40 x 18	Teach		■			pnp, 200 mA, NO/NC	–10 … +60	IP 69K	Stainless stell V4A	M12	PRKT …	OTVTI 51 V 500 P3LK-0.3 BS/IP69K
	100 … 1.000	41 x 31,5 x 16	Teach		■			Push pull, 200 mA, NO/NC	–20 … +60	IP 67	Die-cast zinc	M8	TK…	OTT 41 M 1 G3-T3
	Diffuse sensors with background suppression													
	10 … 120	M18	Poti		■			pnp, 200 mA, NO	–25 … +55	IP 65	Brassnickel-plated	M12	VK…	OHT 18 M 120 P1K-IBSL
	15 … 150	30 x 30 x 15	Poti		■			pnp, 200 mA, NO	–25 … +55	IP 65	Plastic	M8	TK…	OHT 30 K 150 P1K-TSSL
	200 … 2.000	68 x 40 x 20	Poti			■		pnp, 100 mA, NO/NC	–20 … +55	IP 67	Plastic	M12	VK…	OHT 68 K 2000 P3K-BSL
	Optical contrast diffuse sensor													
	30 ± 3	50 x 40 x 15	Teach				■	Push pull, 200 mA, NO/NC	–10 … +60	IP 67	Die-cast zinc	M12	VK… /4	OKTTI 55 M 30 FG3LK-IBS
	Retroreflective sensors													
	… 2.000	M18	Poti			■		pnp, 100 mA, NO/NC	–25 … +50	IP 66	ABS	M12	VK… /4	OR 6-18 K 2000 P3K-BSL
											Metal			OR 6-18 M 2000 P3K-BSL
	40 … 2.000	50 x 40 x 15	Poti Teach		■			pnp, 200 mA, NO/NC	–10 … +60	IP 67	Die-cast zinc	M12	VK…	ORV 51 M 2000 P3K-IBS
														ORVTI 51 M 2000 P3K-IBS
	40 … 2.000	60 x 40 x 18	Teach		■			pnp, 200 mA, NO/NC	–10 … +60	IP 69K	Stainless stell V4A		PRKT …	ORVTI 51 V 2000 P3LK-0.3BS/IP69K
	… 3.000	M18	Poti		■			pnp, 100 mA, NO/NC	–25 … +50	IP 66	ABS	M12	VK… /4	OR 6-18-1 K 3000 P3K-BSL
											Metal			OR 6-18-1 M 3000 P3K-BSL
	200… 10.000	41 x 31,5 x 16	Teach		■			Push pull, 200 mA, NO/NC	–20 … +60	IP 67	Die-cast zinc	M8	TK…	ORT 41 M 10 G3-T3
	Through beam sensors													
	… 8.000	M18	Poti	S/E		■		pnp, 100 mA, NO/NC	–25…+50	IP 66	ABS	M12	VK… /4	OES 6-18 K 8000 P3K-BSL
											Metal			OES 6-18 M 8000 P3K-BSL
	0 … 10.000	50 x 40 x 15	Poti	S	■			–	–25 … +60	IP 67	Die-cast zinc	M12	VK …	OSV 51 M 10000-IBS
				E				pnp, 200 mA, NO/NC						OEV 51 M 10000 P3K-IBS
	0 … 50.000	50 x 40 x 15	Poti	S		■		–	–40 … +50	IP 67	Die-cast zinc	M12	VK… /4	OSP 50 M 50000-IBS/H
				E				Push pull, 200 mA, NO/NC						OEVP 50 M 50000 G3K-IBS/H
	0 … 20.000	60 x 40 x 18	Poti	S		■		–	–10 … +60	IP 69K	Stainless steel V4A	M12	PRKT…	OSP 50 V 20000-0.3BS/IP69K
				E				Push pull, 200 mA, NO						OEVP 50 V 20000 G2LK-0.3BS/IP69K

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

High-precision lighting

Laser photoelectric sensors can safely, quickly and reliably detect even the smallest parts.

Laser photoelectric sensors

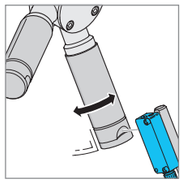
- Resolution 0,2 mm
- High switching frequency
- Collimated red light laser, clocked
- Range up to 50 m
- Robust metal casing
- Compact design

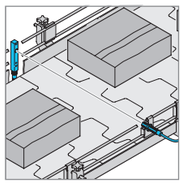
Laser line retroreflective sensors

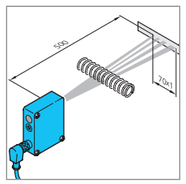
- Fan-shaped laser beam with auto collimation principle
- Detects small parts in the entire active zone
- Red light laser, clocked
- 4-way potentiometer or teach function
- Robust metal casing

Laser sensors with background suppression

- Optical or electronic background suppression
- Vibration-safe 6-way setting for very fine adjustment
- Red light laser, clocked, with small laser point
- Push pull power stage pnp + npn
- High resolution, switching accuracy and frequency
- Functional reserve indicator/ contamination output
- Automatic readjustment of the teach function transmit power
- Teach function







Technical data (typ.)	+20 °C, 24 V DC
Emitted light	Red light laser, clocked
Service voltage	10 … 35 V DC
Protection class	IP 67
Casing material	Die-cast zinc / Stainless steel (only OLE/OLS 08/12/Q15…)

Operating distance, Setting range (mm)	Size (mm)	Sensitivity adjustment by means of	Transmitter (S)/Receiver (E)	Output	Operating frequency (Hz)	Internal power consumption (mA)	Ambient temperature (°C)	Ambient light immunity (Lux)	Casing material	Connector	Connecting cable	Purchase order table*
Laser sensors												
75 … 200	50 x 40 x 15	Poti		pnp, 200 mA, NO/NC	2.000	30	–10 … +50	8.000	Die-cast zinc	M8	TK …	LTV 51 M 200 P3K-TSSL
										M12	VK …	LTV 51 M 200 P3K-IBS
75 … 200	50 x 40 x 15	Teach		pnp, 200 mA, NO/NC	2.000	30	–10 … +50	8.000	Die-cast zinc	M8	TK …	LTVTI 51 M 200 P3K-TSSL
										M12	VK …	LTVTI 51 M 200 P3K-IBS
100 … 600	50 x 40 x 15	Poti		pnp, 200 mA, NO/NC	500	30	–10 … +50	5.000	Die-cast zinc	M8	TK …	LTV 51 M 600 P3K-TSSL
										M12	VK …	LTV 51 M 600 P3K-IBS
100 … 600	50 x 40 x 15	Teach		pnp, 200 mA, NO/NC	500	30	–10 … +50	5.000	Die-cast zinc	M8	TK …	LTVTI 51 M 600 P3K-TSSL
										M12	VK …	LTVTI 51 M 600 P3K-IBS
Laser sensors with background suppression												
50 … 200	50 x 40 x 15	Poti		pnp, 200 mA	500	45	–10 … +50	8.000	Die-cast zinc	M12	VK …	LHT 51 M 200 P3K-IBS [1]
		Teach									VK … /4	LHTTI 51 M 200 FP3K-IBS [1]
40 … 400	76 x 30 x 18	Poti		Push pull, 200 mA, NO/NC	1.000	30	–10 … +60	5.000	Die-cast zinc	M12	VK … /4	LHT 81 M 400 G4L-IBS [2]
Retroreflective laser sensors												
1.000	50 x 40 x 15	Poti		pnp, 200 mA, NO/NC	2.000	40	0 … +50	5.000	Die-cast zinc	M8	TK …	LRV 51 M 1000 P3K-TSSL
										M12	VK …	LRV 51 M 1000 P3K-IBS
1.000	50 x 40 x 15	Teach		pnp, 200 mA, NO/NC	2.000	40	0 … +50	5.000	Die-cast zinc	M8	TK …	LRVTI 51 M 1000 P3K-TSSL
										M12	VK …	LRVTI 51 M 1000 P3K-IBS
2.000	41 x 31,5 x 16	Teach		Push pull, 200 mA, NO/NC	1.000	40	0 … +50	50.000	Die-cast zinc	M8	TK …	LRT 41 M 2 G3-T3
2.000	50 x 40 x 15	Poti		pnp, 200 mA, NO/NC	2.000	40	0 … +50	5.000	Die-cast zinc	M8	TK …	LRV 51 M 2000 P3K-TSSL
										M12	VK …	LRV 51 M 2000 P3K-IBS
2.000	50 x 40 x 15	Teach		pnp, 200 mA, NO/NC	2.000	40	0 … +50	5.000	Die-cast zinc	M8	TK …	LRVTI 51 M 2000 P3K-TSSL
										M12	VK …	LRVTI 51 M 2000 P3K-IBS
10.000	50 x 40 x 15	Poti		pnp, 200 mA, NO/NC	2.000	40	0 … +50	5.000	Die-cast zinc	M8	TK …	LRV 51 M 10000 P3K-TSSL
										M12	VK …	LRV 51 M 10000 P3K-IBS
10.000	50 x 40 x 15	Teach		pnp, 200 mA, NO/NC	2.000	40	0 … +50	5.000	Die-cast zinc	M8	TK …	LRVTI 51 M 10000 P3K-TSSL
										M12	VK …	LRVTI 51 M 10000 P3K-IBS
Laser through beam sensors												
0 … 2.000	M8 x 70	–	S	–	2.000	30	0 … +50	–	Stainless steel	M8	TK …	OLS 08 V 2000-TSSL
			E	pnp, 200 mA, NO				5.000				OLE 08 V 2000 P2K-TSSL
0 … 2.000	M12 x 70	Poti	S	–	2.000	30	0 … +50	–	Stainless steel	M12	VK …	OLS 12 V 2000-IBSL
			E	pnp, 200 mA, NO				5.000				OLE 12 V 2000 P2K-IBSL
500…2.000	10 x 10 x 60	Poti	S	–	2.000	30	0 … +50	–	Die-cast zinc	M8	TK …	OLS Q 10 M 2000-TSSL
			E	pnp, 200 mA, NO				5.000				OLE Q 10 M 2000 P2K-TSSL
2.000…50.000	15 x 15 x 69	Poti	S	–	1.200	24	5 … +45	–	Stainless steel	M8	TK …	OLS Q 15 V 50000-TSSL
			E	pnp, 200 mA, NO/NC		15		–				OLE Q 15 V 50000 P3K-TSSL
Laser line retroreflective sensors												
50 … 500	50 x 40 x 15	Poti		pnp, 200 mA, NO/NC	750	30	5 … +50	15.000	Die-cast zinc	M8	TK …	LLRV 51 M 500 P3K-TSSL
										M12	VK …	LLRV 51 M 500 P3K-IBS
50 … 500	50 x 40 x 15	Teach		pnp, 200 mA, NO/NC	750	30	5 … +50	15.000	Die-cast zinc	M8	TK …	LLRVTI 51 M 500 P3K-TSSL
										M12	VK …	LLRVTI 51 M 500 P3K-IBS

* Excerpt from our delivery programme

[1] electronic background suppression / [2] optical background suppression

Further information and types will be found under **www.di-soric.com**

Powerful light in spite of extraordinary conditions

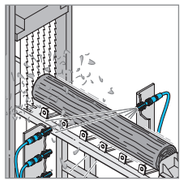
High performance photoelectric sensors are the more poweful versions of the various photoelectric sensors series. Thanks to their extremely high performance, chips, dust, oil and waste water can all be reliably penetrated.

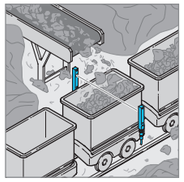
High performance photoelectric sensors

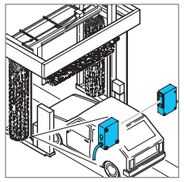
- High switching accuracy
- Extremely resistant to dirt
- Ranges up to 50 m
- Protection classes IP 67, IP 68 and IP 69K
- Versions with switchable heating function
- Stainless steel casing

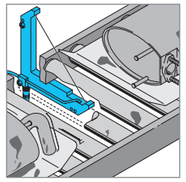
High performance angled light barriers with contamination indicator/-output

- Intelligent contamination output with LED
- Intelligent contamination indicator
- High functional reserve
- Listed in the automobile industry
- Advanced PE-contact
- Optical axis approachable in x-, y- and z-direction
- All-purpose mounting
- Robust metal casing









CE cULus LISTED *

*OGLP and OGUP, only

Technical data (typ.)	+20 °C, 24 V DC
Emitted light	Infrared light, clocked
	Red light, clocked, collimated (only OGL 50/31 …/OGL 55/54 …)
Ambient temperature	–10 … +60 °C
	–20 … +60 °C (only OxP 12 …)
	–40 … +50 °C (only …/H)
Protection class	IP 67
	IP 67, IP 69, IP 69K (only OxP 12 …)
	IP 69K (only …/IP 69K)

	Operating distance, Setting range (mm), Fork opening (mm), Journal length (mm)	Size (mm)	Transmitter (S)/Receiver (E)	Service voltage (V DC)	Output	Operating frequency (Hz)	Internal power consumption (mA)	Ambient light immunity (Lux)	Casing material	Connector	Connecting cable	Purchase order table*
	High performance through beam sensors											
	50.000	M12 x 75	S	10 … 35	–	–	55	–	Stainless steel V2A	M12	VK …	OSP 12 VHF-IBSL
			E		Push pull, 200 mA, NO	20	40	> 15.000				OEP 12 V 50000 G2-IBSL
	50.000	12 x 12 x 91	S	10 … 35	–	–	55	–	Stainless steel V2A	M8	TK …	OSPQ 12 MHF-TSSL
			E		Push pull, 200 mA, NO		40	> 15.000				OEPQ 12 M 50000 G2-TSSL
	0 … 50.000	50 x 40 x 15	S	10 … 35	–	–	55	–	Die-cast zinc	M12	VK …	OSP 50 M 50000-IBS
			E		Push pull, 200 mA, NO/NC	20	40	> 15.000				OEVP 50 M 50000 G3LK-IBS
	0 … 50.000	50 x 40 x 15	S	10 … 35	–	–	55	–	Die-cast zinc	M12	VK …/4	OSP 50 M 50000-IBS/H [1]
			E		Push pull, 200 mA, NO/NC	20	40	> 15.000				OEVP 50 M 50000 G3K-IBS/H [1]
	0 … 20.000	60 x 40 x 18	S	10 … 35	–	–	55	–	Stainless steel V4A	M12	PRKT …	OSP 50 V 20000-0.3BS/IP69K
			E		Push pull, 200 mA, NO	20	40	> 15.000				OEVP 50 V 20000 G2LK-0.3BS/IP69K
	High performance fork light barriers											
	30	50 x 60 x 10		10 … 30	pnp, 200 mA, NO/NC	300	30	> 20.000	Die-cast zinc	M8	TK …	OGUP 030 P3K-TSSL
	50	70 x 80 x 10										OGUP 050 P3K-TSSL
	80	100 x 80 x 10										OGUP 080 P3K-TSSL
	High performance angled light barriers											
	50	75 x 75 x 10		10 … 35	pnp, 200 mA, NO/NC	1.000	30	> 20.000	Die-cast zinc	M8	TK …	OGLP 050 P3K-TSSL
	80	105 x 105 x 10				300	30	> 20.000				OGLP 080 P3K-TSSL
	120	150 x 150 x 12				2.000	40	> 50.000				OGLP 120 P3K-TSSL
	150	180 x 180 x 12				2.000	40	> 50.000	Aluminium			OGLP 150 P3K-TSSL
	High performance angled light barrier with contamination indicator											
	55/55	65 x 105 x 14		10 … 35	pnp, 200 mA, NO	150	40	> 20.000	Aluminium	M12	VK …	OGL 55/55 P2L-IBS
	High performance angled light barriers with contamination indicator/-output											
	50/31	60 x 83 x 10		10 … 30	pnp, 200 mA, NO	200	45	> 20.000	Die-cast zinc	M12	VK …/4	OGL 50/31 P6L-IBS
											VK …/5	OGL 50/31 P6L-IBS/PE [2]
	55/54	65 x 106 x 10		10 … 30	pnp, 200 mA, NO	200	45	> 20.000	Die-cast zinc	M12	VK …/4	OGL 55/54 P6L-IBS
											VK …/5	OGL 55/54 P6L-IBS/PE [2]

* Excerpt from our delivery programme

[1] with heating function / [2] advanced PE-contact

Further information and types will be found under **www.di-soric.com**

"Right" angle detection

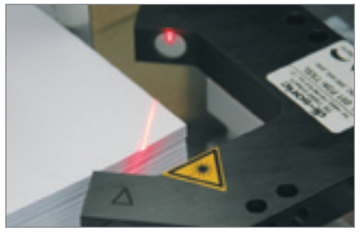
The angled light barrier is of particular use when removing workpieces or detecting parts. With high operating frequency, short response time and high resolution; exact positioning as well as the safe detcion of extremely fast motion sequences of the smallest parts is possible.

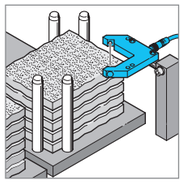
Angled light barriers

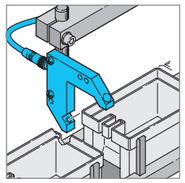
- Red and infrared types
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- Robust metal casing
- 3-years function guarantee*

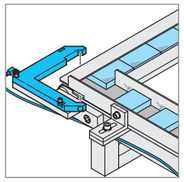
Angled laser light barriers

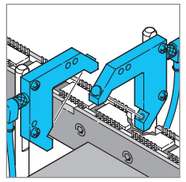
- Very high resolution
- Visible laser spot
- Mountable side by side
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- Robust metal casing











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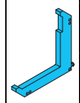
*according to our General Conditions of Export

Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 35 V DC
Voltage drop	< 2,8 V
Switching hysteresis	< 0,25 mm
Ambient temperature	–10 … +60 °C
Insulation voltage endurance	500 V
Protection class	IP 67
Casing material	Die-cast zinc, lacquered finish

	Journal length (mm)	Size (mm)	Red light 660 nm	Infrared light 880 nm	Red light laser 670 nm	Output	Internal power consumption (mA)	Resolution (mm)	Operating frequency (Hz)	Ambient light immunity (Lux)	Reproducibility (mm)	Connecting cable	Purchase order table*
	Angled light barriers												
	50	75 x 75 x 10	■			pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,5	4.000	> 80.000	0,06	TK …	OGL 051 P3K-TSSL OGL 051 N3K-TSSL
	50	75 x 75 x 10		■		pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,5	4.000	> 25.000	0,06	TK …	OGL 050 P3K-TSSL OGL 050 N3K-TSSL
	80	105 x 105 x 10	■			pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,7	4.000	> 70.000	0,06	TK …	OGL 081 P3K-TSSL OGL 081 N3K-TSSL
	80	105 x 105 x 10		■		pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,7	4.000	> 20.000	0,06	TK …	OGL 080 P3K-TSSL OGL 080 N3K-TSSL
	120	150 x 150 x 12	■			pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 40	ø 1,0	2.000	> 50.000	0,06	TK …	OGL 121 P3K-TSSL OGL 121 N3K-TSSL
	120	150 x 150 x 12		■		pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 40	ø 1,0	2.000	> 50.000	0,06	TK …	OGL 120 P3K-TSSL OGL 120 N3K-TSSL
	Angled laser light barriers ⚠												
	50	81 x 81 x 10			■	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	TK …	LGL 051 P3K-TSSL LGL 051 N3K-TSSL
	80	106 x 106 x 10			■	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	TK …	LGL 081 P3K-TSSL LGL 081 N3K-TSSL
	120	146 x 146 x 12			■	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	< 30	ø 0,05	3.000	> 100.000	0,01	TK …	LGL 121 P3K-TSSL LGL 121 N3K-TSSL
	High performance angled light barriers see page 12 until 13												

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

Optimally adjusted thanks to individual geometry

With di-soric fork light barriers, you can reliably monitor, control and manage your material flow. The largest range of fork light barriers in conjunction with customised designs always offers the best solutions.

Fork light barriers

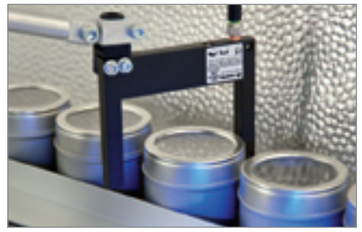
- Potentiometer or teach function
- Static or dynamic operating principle
- Analogue/switching output
- Fork widths from 2 to 250 mm
- High operating frequency
- Sensitivity adjustable
- Light/dark switching
- OGUFIX
  - does not require any adjustment elements
- Versions in V4A
- 3-years function guarantee*

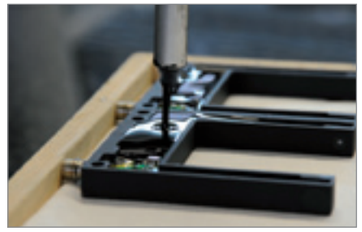
Differential fork light barriers

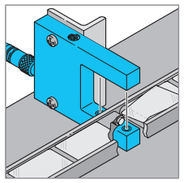
- Differential evaluation
- High resolution
- Detects transparent objects and the thinnest threads
- Fork widths from 30 to 90 mm
- 3-years function guarantee*

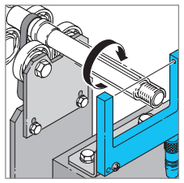
Laser fork light barriers

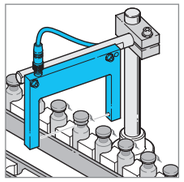
- Resolution 0,05 mm
- High switching frequency
- Reproducibility 0,01 mm
- Fork widths from 30 to 120 mm

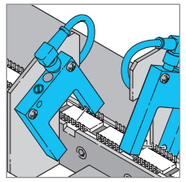












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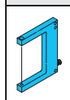
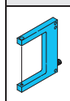
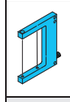
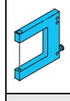
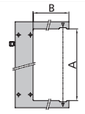
*according to our General Conditions of Export

Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 35 V DC / 12 … 35 V DC (only ODG …) / 10 … 30 V DC (only LGU …)
Output	pnp, 200 mA, NO/NC switchable / Push pull, 200 mA, NO/NC switchable (only … G3K …)
Sensitivity adjustment	Potentiometer / teach key (only OGUTI …)
Laser power	100 µW only LGU …
Laser class	2 - EN 60825-1 (only LGU …)
Ambient temperature	–10 … 60 °C / +5 … 45 °C (only LGU …)
Protection class	IP 67
Casing material	Die-cast zinc, lacquered
	Stainless steel V4A (1.4404/1.4571) (only OGU … V4A)
	Aluminium, black anodized (only ODG … / LGU …)

	Fork opening (mm)	Size (mm)	Sensitivity adjustment by means of	Red light 660 nm, clocked	Infrared light 880 nm, unclocked	Red light laser 670 nm, clocked	Internal power consumption (mA)	Resolution, smallest detectable part (mm)	Voltage drop (V)	Operating frequency (Hz)	Switching hysteresis (mm)	Reproducibility (mm)	Ambient light immunity (Lux)	Connector	Connecting cable	Purchase order table*
Fork light barriers in standard version																
	10	25 x 45 x 10	Poti		■		40	Ø 0,3	2,4	10.000	0,1	0,01	20.000	M8	TK …	OGU 010 G3K-TSSL
	20	40 x 50 x 10		■			30	Ø 0,4	2,8	4.000	0,1	0,02	70.000			OGU 021 P3K-TSSL
	30	50 x 60 x 10		■			30	Ø 0,5	2,8	4.000	0,25	0,02	30.000			OGU 031 P3K-TSSL
	50	70 x 80 x 10		■			30	Ø 0,5	2,8	4.000	0,25	0,04	25.000			OGU 051 P3K-TSSL
	80	100 x 80 x 10		■			30	Ø 0,5	2,8	4.000	0,25	0,06	25.000			OGU 081 P3K-TSSL
	120	144 x 90 x 12		■			45	Ø 0,8	2.0	2.000	0,2	0,06	20.000			OGU 121 P3K-TSSL
Fork light barriers in stainless steel casing																
	30	50 x 60 x 10	Poti	■			30	Ø 0,5	2,8	4.000	0,25	0,02	30.000	M8	TK …	OGU 031 P3K-TSSL/V4A
	50	70 x 80 x 10		■			30	Ø 0,5	2,8	4.000		0,04	15.000			OGU 051 P3K-TSSL/V4A
	80	100 x 80 x 10		■			30	Ø 0,5	2,8	4.000		0,06	25.000			OGU 081 P3K-TSSL/V4A
	120	144 x 90 x 12		■			45	Ø 0,8	2,0	2.000		0,06	20.000			OGU 121 P3K-TSSL/V4A
Fork light barriers with teach function																
	30	50 x 60 x 10	Teach	■			30	Ø 0,3	2,0	3.000	0,1	0,03	20.000	M8	TK …	OGUTI 031 P3K-TSSL
	50	70 x 80 x 10		■			30	Ø 0,3		3.000	0,1	0,03	20.000			OGUTI 051 P3K-TSSL
	80	100 x 80 x 10		■			30	Ø 0,3		3.000	0,1	0,03	12.000			OGUTI 081 P3K-TSSL
	120	144 x 90 x 12		■			50	Ø 0,7		1.500	0,15	0,05	15.000			OGUTI 121 G3K-TSSL
Differential fork light barriers																
	30	50 x 70 x 10	Poti		■		35	Ø 0,07	2,5	5.000	0,2	0,01	–	M8	TK …	ODG 30 P3K-TSSL 1)
	50	70 x 90 x 10			■			Ø 0,1								ODG 50 P3K-TSSL 1)
	90	110 x 115 x 10			■			Ø 0,25								ODG 90 P3K-TSSL 1)
Laser fork light barriers ⚠																
	30	60 x 60 x 10	Poti			■	30	Ø 0,05	2,8	3.000	0,02	0,01	100.000	M8	TK …	LGU 031 P3K-TSSL
	50	80 x 80 x 10				■										LGU 051 P3K-TSSL
	80	110 x 80 x 10				■										LGU 081 P3K-TSSL
	120	150 x 90 x 12				■										LGU 121 P3K-TSSL
Individual fork light barriers																
	di-soric OGUFLEX ... fork light barriers are manufactured following various operating principles and customer requirements. Browse through our range of fork light barriers and select a device with a suitable operating principle for your application. The fork width A and the journal length B are added to the order code of the selected fork light barrier.															OGUFLEX … 1)
High performance fork light barriers see page 12 until 13																

* Excerpt from our delivery programme

1) without UL-approval

Further information and types will be found under **www.di-soric.com**

di-soric

Optimally sorted feeding

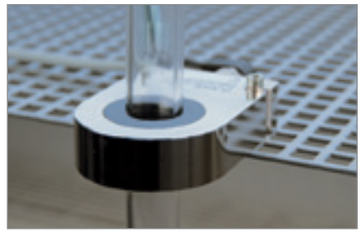
The optimum solution for detecting metallic and non-metallic parts, for counting small parts or for checking ejection or removal of workpieces in press and stamping plants.

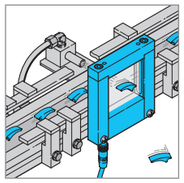
Frame light barriers

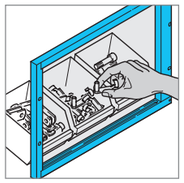
- Detachable corrugated crossbar
- Patented baffle protection for protected optics
- Invariable resolution even in the border area
- Resolution 0,7 mm
- Very short response time
- Adjustable pulse stretching
- Switchable static/dynamic operating principle
- Integrated blow-off ports
- Robust metal casing

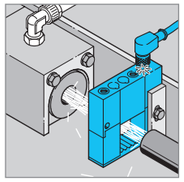
Ring light barriers

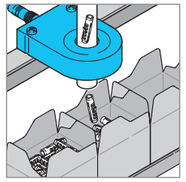
- Resolution 1 mm
- Short response time
- Adjustable pulse stretching
- Switchable static/dynamic operating principle
- Ring diameters of 10, 15 and 20 mm
- Version with external amplifier











CE

Technical data (typ.)	+20 °C, 24 V DC
Emitted light	Infrared light 880 nm
Response/release time	0,1 … 150 ms (only OGWSD …) / 0,1 ms (only ORSD …)
Pulse stretching	Adjustable ca. 1 … 150 ms / 0,1 ... 150 ms (only OGWSD …),
	1 … 150 ms (only ORSD … / OVx …) / 10 ... 300 ms (only OV …),
	1 ... 150 ms (only OVD …)
Ambient temperature	0 … 60 °C / 0 … 50 °C (only OTZ … / OVx …)
Protection class	IP 67 / IP 63 (only OTZ …) / IP 65 (only OVx …)
Insulation voltage endurance	500 V
Casing material	Aluminium, anodized (only OGWSD … / OTZ … / OVx …)
	Plastic (only ORSD ...)

	Active zone/Ring diameter (mm)	Size (mm)	Functional principles Static (S)/Dynamic (D)	Output	Internal power consumption (mA)	Resolution, dynamic mode (mm)	Resolution, static mode (mm)	Ambient light immunity (Lux)	Service voltage (V DC)	External amplifier	Connector	Connecting cable	Purchase order table*
Frame light barriers													
	25 x 23	60 x 60 x 15	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	25	ø 0,7	ø 1,0	30.000	10 … 35		M8	TK …	OGWSD 25 P3K-TSSL OGWSD 25 N3K-TSSL
	40 x 49	85 x 80 x 15	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	30	ø 0,7	ø 1,0	20.000	18 … 35	■	M8	TK …	OGWSD V 4055 P3K-TSSL OGWSD V 4055 N3K-TSSL
	40 x 49	80 x 125 x 20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	30	ø 0,7	ø 1,0	20.000	18 … 35		M8	TK …	OGWSD 4055 P3K-TSSL OGWSD 4055 N3K-TSSL
	70 x 62	110 x 123 x 20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	30	ø 1,5	ø 2,0	20.000	18 … 35		M8	TK …	OGWSD 70 P3K-TSSL OGWSD 70 N3K-TSSL
	100 x 92	140 x 153 x 20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	35	ø 2,5	ø 3,0	20.000	18 … 35		M8	TK …	OGWSD 100 P3K-TSSL OGWSD 100 N3K-TSSL
	150 x 142	190 x 203 x 20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	45	ø 3,0	ø 5,0	20.000	18 … 35		M8	TK …	OGWSD 150 P3K-TSSL OGWSD 150 N3K-TSSL
	250 x 242	290 x 303 x 20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	45	ø 5,0	ø 8,0	10.000	22 … 26		M8	TK …	OGWSD 250 P3K-TSSL OGWSD 250 N3K-TSSL
	300 x 397,5	340 x 458,5 x 20	S/D	pnp, 200 mA, NO/NC npn, 200 mA, NO/NC	50	ø 5,0	Ø 10,0	8.000	22 … 26		M8	TK …	OGWSD 300 P3K-TSSL OGWSD 300 N3K-TSSL
	Ring light barrier												
	20,6	60 x 85 x 20	S/D	pnp, 200 mA, NO	30	ø 1,5	ø 1,5	5.000	10 … 35		M12	VK …	ORSD 20 P2K-IBS
	Ring light barriers to be used with external amplifier/connecting cable 500 mm												
	10,6	35 x 30 x 20	–	–	–	–	ø 1,0	–	–	■	–	–	OTZ 510
	15,6	40 x 35 x 20	–	–	–	–	ø 2,0	–	–	■	–	–	OTZ 515
	20,6	40 x 35 x 20	–	–	–	–	ø 3,0	–	–	■	–	–	OTZ 520
	Amplifier for ring light barrier OTZ …												
	–	35 x 70 x 15	S	pnp, 200 mA, NC	60	–	–	–	12 … 30		M8	TK …	OV 70 P1K-TSSL
	–			pnp, 200 mA, NO		–	–	–					OV 70 P2K-TSSL
	–	35 x 70 x 15	D	pnp, 200 mA, NC	60	–	–	–	20 … 35		M8	TK …	OVD 70 P1K-TSSL
	–			pnp, 200 mA, NO		–	–	–					OVD 70 P2K-TSSL

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

Highly flexible detection despite heat or narrow spaces

Glass fibre-optic cables are used for narrow spaces at extreme temperatures. Thanks to their small casing design, plastic fibre-optic cables can be used in even the narrowest spaces.

Glass fibre-optic cables

- High-quality glass fibre-optic cables
- Silicone, metal or PU coating
- Bendable probes
- High temperature resistance
- Robust, highly flexible construction
- Special designs

Plastic fibre-optic cables

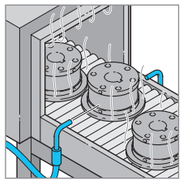
- High resolution
- Large operating distances
- Fine internal fibres
- Auxiliary optics
- Bendable sensor probe
- Versions with coaxial arrangement

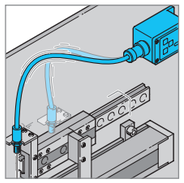
Amplifiers for glass fibre-optic cables

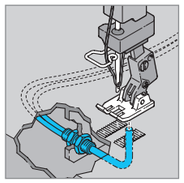
- High switching frequency
- Analog and digital outputs
- Infrared, red and green light, clocked
- Potentiometer or teach function
- Robust metal casing

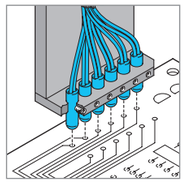
Amplifiers for plastic fibre-optic cables

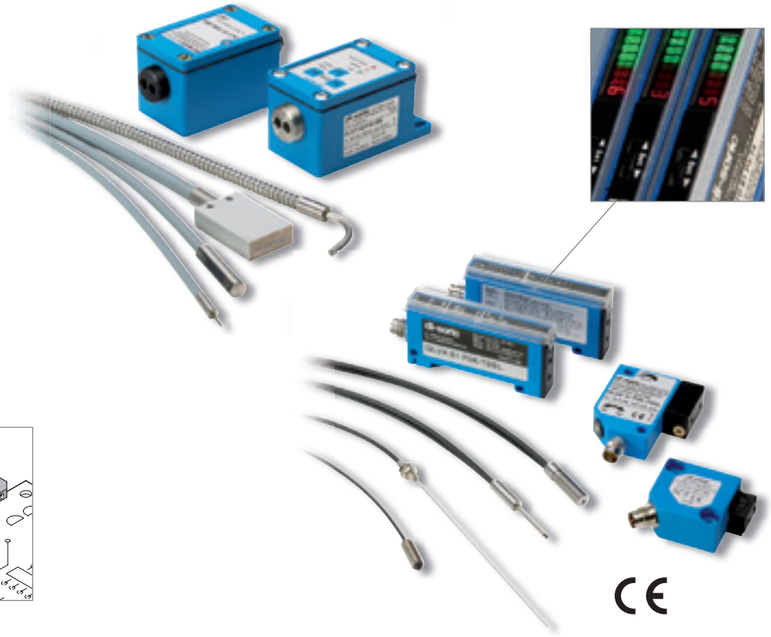
- Digital LED display
- High operating frequency
- Timer function
- Potentiometer or teach function
- High operating distance
- Functional reserve output











Technical data (typ.)	+20 °C, 24 V DC
Output	Transistor, pnp, 200 mA
Ambient temperature	–25 … +55 °C (only OLVK 31 …/OLVKxx 61 …)
	0 … +60 °C (only OLVK 41 …) / –10 … +60 °C (only OLVxx 4x …)
Casing material	PBTP (Crastin) / Polyester (only OLVK 41 …) / Die-cast zinc (only OLV 4x …/OLVTI 4x …)

	Size (mm)	Sensitivity adjustment by means of	Service voltage (V)	Operating frequency (Hz)	Infrared light, clocked	Red light, clocked	NO/NC switchable	Switching hysteresis (%)	Temperature drift (%/K)	Ambient light immunity (Lux)	Protection class	Internal power consumption (mA)	Connector	Connecting cable	Purchase order table*
	Amplifiers for plastic fibre-optic cables														
	30 x 30 x 15	Poti	10 … 36	1.000		■		10	0,3	10.000	IP 67	15	M8	TK … /4	OLVK 31 P4K-TSSL
	40 x 36 x 12	Poti	12 … 35	750		■	■	15	0,3	30.000	IP 65	36	M8	TK …	OLVK 41 P3K-TSSL
	60 x 31 x 10	Poti	10 … 30	1.500		■	■	10	0,2	10.000	IP 64	15	M8	TK …	OLVK 61 P3FK-TSSL/3
														TK … /4	OLVK 61 P3FK-TSSL
	60 x 31 x 10	Teach	10 … 30	1.500		■	■	10	0,2	10.000	IP 64	25	M8	TK … /4	OLVKTI 61 P3FK-TSSL
				4.000				5				30			OLKTD 61 P3-T4 [1]
	65 x 31 x 10	Teach	12 … 24	4.000		■	■	–	0,2	3.000	IP 40	30	M8	TK … /4	OLKTD 71 P3-T4 [1]
	Amplifiers for glass fibre-optic cables														
	40 x 41 x 75	Poti	12 … 35	1.500	■		■	10	0,3	20.000	IP 65	55	M12	VK …	OLV 40 P3K-IBS
						■		15	0,3						OLV 41 P3K-IBS
	40 x 41 x 75	Teach	10 … 35	1.500	■		■	12	0,1	50.000	IP 65	45	M12	VK … /4	OLVTI 40 P3K-IBS
						■		12	0,25						OLVTI 41 P3K-IBS

	Application as diffuse sensor	Application as through beam sensor	Operating distance up to (mm) depending on amplifier	Sensor probe	Thread sleeves (brassnickel-plated)	Thread sleeves (VA)	Mounting	Coating cable (PE)	Coating cable (silicone metal coating)	Lenght fibre-optic cable [1] (mm)	Temperature resistance (°C)	Protection class	Purchase order table*
	Plastic fibre-optic cables (PMMA)												
	■		70	–	■		M3						WRBT 2000 K-M3-0.5
	■		140	–		■	M5	■		2.000 [2]	–25 … +70	IP 67	WRBT 2000 K-M5-Z8
	■		150	VA	■		M6						WRBT 2000 KBF-M6-1.0
	■		200	–	■		M6						WRBT 2000 K-M6-1.0
	Glass fibre-optic cables												
	■		20	VA			ø 5 x 15						WRB 120SB 2.0-1.0
		■											WRB 220SB 2.0-1.0
	■		70	VA			ø 8 x 35						WRB 120SR-8.0-2.5
		■											WRB 220SR-8.0-2.5
	■		85	VA			ø 8 x 15		■	600 [2]	–40 … +180	IP 67	WRB 120S-8-2.5
		■											WRB 220S-8-2.5
	■		85	VA			M4 x 20						WRB 120S-M4-2.5
		■											WRB 20S-M4-2.5
	■		85	AL			30 x 16 x 10						WRB 120SQ-90-10-0.6
		■											WRB 220SQ-90-10-0.3

* Excerpt from our delivery programme

[1] with digital display / [2] further lengths available

Further information and types will be found under **www.di-soric.com**

Detection and measurement in the grid

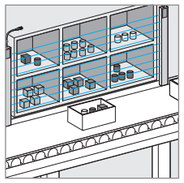
Specified areas for checking individual parts are safely monitored with invisible, infrared light beams in di-soric light curtains.

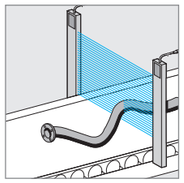
Light curtains

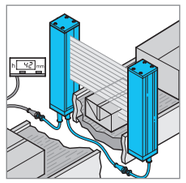
- Transistor outputs or relay outputs
- Integrated or external evaluation electronics
- Alarm output for contamination
- Light beam interspace from 5 to 112 mm
- Monitoring heights from 35 to 5.775 mm
- Compact design
- Aluminium casing
- Simple mounting

Measuring light curtains

- Resolution 2 mm
- Short response time
- Analogue output from 4 to 20 mA
- Monitoring height 128 mm
- Range from 50 to 300 mm
- Percentage or absolute evaluation
- Automatic calibration







CE

Technical data (typ.)	+20 °C, 24 V DC	
	LA .../LA-D ...	**MLE 64/2 A 300 .../MLS 64/2 A 300 ...**
Operating distance	0,7 … 4,0 m / factory preset to 4,0 m	50 … 300 mm
Emitted light	Infrared light 880 nm, clocked	Infrared 880 nm, clocked
Service voltage	20,4 … 28,8 V DC	18 …30 V DC
Outputs	Transistor pnp (switching and alarm output)	4 … 20 mA (meaning 0 ... 128 mm, linear)
Number of channels/beamgrid		64/2 mm
Resolution, smallest detectable part		2 mm
Detection range		128 mm
Current carrying capacity	200 mA, short-circuit-proof	
Ambient temperature	–10 … +45 °C	0 … +60 °C
Ambient light immunity		5.000 Lux
Measured repetition frequency		Max. 25 Hz
Protection class	IP 54	IP 65
EMC-norms	EN 61000-6-3:2001/EN 61000-6-1:2001	
Casing material	Aluminium, rod profile (24 x 12 mm)	Aluminium, rod profile (40 x 40 mm)

Purchase order table* light curtains LA … / LA–D …

Beam evaluation LA ... = Horizontal LA-D ... = Diagonal	No. of beams	Light beam interspace (mm)	Monitored height H (mm)	Profile length L ca. (mm)	Mounting	H = Light switching D = Dark switching
LA	8	– 12.5	– 88	– 260	I–	H
LA-D						D

Purchase order table

Light curtains with horizontal light beam evaluation, number of light beams = 8, light beam interspace = 12,5 mm, monitored height = 88 mm, profile length = 260 mm, light switching.

LA 8 – 12.5 – 88 – 260 I–H

Light beam interspace 12,5 mm			Light beam interspace 12,5 mm			Light beam interspace 25 mm			Light beam interspace 50/112 mm		
LA	8 – 12.5 – 88 – 260 I–	H	LA	72 – 12.5 – 888 – 1060 I–	H	LA	8 – 25 – 175 – 360 I–	H	LA	8 – 50 – 350 – 560 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	16 – 12.5 – 188 – 360 I–	H	LA	80 – 12.5 – 988 – 1160 I–	H	LA	16 – 25 – 375 – 560 I–	H	LA	16 – 50 – 750 – 960 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	24 – 12,5 – 288 – 460 I–	H	LA	88 – 12.5 – 1088 – 1260 I–	H	LA	24 – 25 – 575 – 760 I–	H	LA	24 – 50 – 1150 – 1360 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	32 – 12.5 – 388 – 560 I–	H	LA	96 – 12.5 – 1188 – 1360 I–	H	LA	32 – 25 – 775 – 960 I–	H	LA	32 – 50 – 1550 – 1760 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	40 – 12.5 – 488 – 660 I–	H	LA	104 – 12.5 – 1288 – 1460 I–	H	LA	40 – 25 – 975 – 1160 I–	H	LA	40 – 50 – 1950 – 2160 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	48 – 12.5 – 588 – 760 I–	H	LA	112 – 12.5 – 1388 – 1560 I–	H	LA	48 – 25 – 1175 – 1360 I–	H	LA	8 – 112 – 783 – 1050 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	56 – 12.5 – 688 – 860 I–	H	LA		H	LA	56 – 25 – 1375 – 1560 I–	H	LA	16 – 112 – 1677 – 1950 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D
LA	64 – 12.5 – 788 – 960 I–	H	LA		H	LA	65 – 25 – 1575 – 1760 I–	H	LA	24 – 112 – 2571 – 2840 I–	H
LA-D		D	LA-D		D	LA-D		D	LA-D		D

Purchase order table* measuring light curtains MLE 64/02 A 300 …/MLS 64/02 A 300 …

Evaluation receiver/transmitter	Model A (absolute)	Model B (percentaged)
Receiver	MLE 64/02 A 300-A-F250	MLE 64/02 A 300-B-F250
Transmitter	MLS 64/02 A 300-A-F250	MLS 64/02 A 300-B-F250
Connecting cable 3,0 m	VKHM-Z-3/5	
Connecting cable 5,0 m	VKHM-Z-5/5	
Interconnecting cable MLE .../MLS ...	VKHM-MLG-3/8	

* Excerpt from our delivery programme

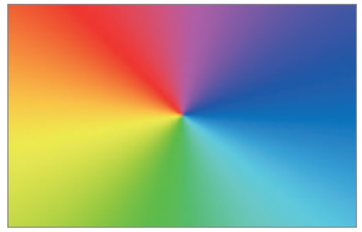
Further information and types will be found under **www.di-soric.com**

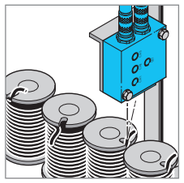
Even the smalles difference safely detected

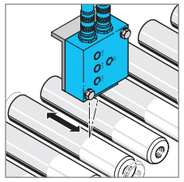
These high-quality sensors detect shades in changes to colour or surface structures and are frequently used in quality testing.

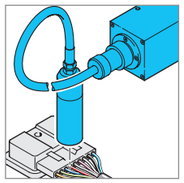
Colour and surface sensors

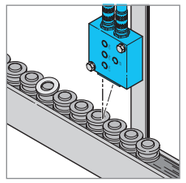
- Perceptive operating mode (depending on sensitivity)
- Measurement in colorimetric colour spaces e. g. L*a*b and L*u*v
- Up to 255 channels
- Adjustable colour tolerance
- Very short response time
- High ambient light compensation
- Reflection compensation
- Exportable measured values for PC applications (.xls, .csv)
- Extensive setting options via PC
- Surface structure checking
- Separate evaluation of brightness and colouring
- Illumination with aging-compensated white light LED
- Transmitter can be switched off to measure intensity of light sources
- Fibre-optic cable with various auxiliary optics
- Software included in the scope of delivery











Technical data (typ.)	+20 °C, 24 V DC
Operating distance/Measuring spot Ø	30 … 60 mm /Ø 8 mm bei 40 mm working distance (only FSLS 50 M 60/3 …)
	See fibre-optic WRB … (only FSLSx xx WRB/x …)

	Colour and surface sensors	Integrated focus optic	Connection fibre-optic	3 channels, Teach-In	Number of colour channels binary coded	3x npn + pnp, NO/NC, 100 mA each channel	8x npn + pnp, NO/NC, 100 mA each channel	Illumination with aging-compensated white light LED	LCD display, 3 lines (16 figures/line) 6 buttons, illuminated	Connection: RS 232 (> 115 kBit/s) Power supply: M8x 1	Service voltage (V DC)	Internal power consumption (mA)	Protection class	Sensor probe	Active Ø (mm)	Acceptance angle	Purchase order table*
		■		■	7 –	■		■			18 … 28	100	IP 54	–	–	–	FSLS 50 M 60/3 G3K-BS8 FSLSB 50 M 60/3 G3K-BS8 [1]
			■	■	7 –	■		■			18 … 28	100	IP 54	–	–	–	FSLS 50 M WRB/3 G3K-BS8 FSLSB 50 M WRB/3 G3K-BS8 [1]
			■		255		■	■			18 … 28	500	IP 65	–	–	–	FSLS 90 M WRB/8 G3K-BS8
	Adapter cable 0,25 m (USB/RS232)																RS232S-0.25-USB
	Connecting cable 5,0 m																BSHM-Z-5/8-A
	Connecting cable 2,0 m (USB)																BSHM-Z-2/4-USB
	Adjust box for FSLS 50 …																
						■	■				10 … 28	150	IP 54	–		–	FSLS-CB-01
	Connecting cable 2,0 m (RS232) for adjust box FSLS-CB-01																BSHM-Z-2/4-RS232K

[1] not suitable for operation with adjust box FSLS-CB-1

	Fibre-optic WRB … for colour and surface sensors FSLSx …	Size (mm)	Spot size (mm)	Working distance (mm)	Scanning distance (mm)	Material (Aluminium, anodized)				Protection class	Sensor probe	Active Ø (mm)	Acceptance angle	
	Diffuse sensors									IP 67	Ø 4,5 x 12 M4 x 20 M6 x 30	2,5	67 °	WRB 120 S-SG-4.5-2.5 WRB 120 S-SG-M4-2.5 WRB 120 S-SG-M6x30-2.5
	Through beam sensor									IP 67	Ø 4,5 x 12	2,5	67 °	WRB 220 S-4.5-2.5
	Focus optics VO … for mounting on fibre-optic cables WRB …													
		Ø 15 x 60	2,0	10	10 … 15	■								VO-M12/10-4.5-2.5
		30 x 39,5 x 12	7,0	35	20 … 50	■								VO-F/30-4.5-2.5
		40 x 51,6 x 22	14,0	95	70 … 170	■								VO-F/120-4.5-2.5

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

Feed control made easy

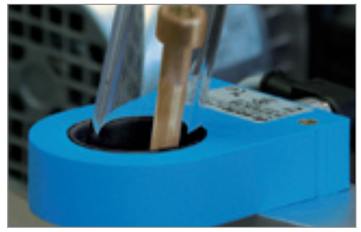
Extremely simple mounting and safe detection of fed metallic objects and small parts, e. g. springs.

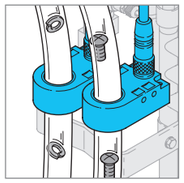
Inductive ring sensors/ Wire break sensors

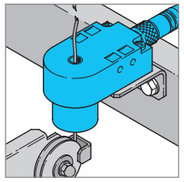
- High resolution:
  - Steel ball ø 0,5 to 10 mm
  - Copper wire from ø 0,1 mm
- Static or dynamic operating principle
- Sensitivity adjustment
- Short response time
- Adjustable pulse stretching
- Switchable NO/NC function
- Ring diameter from 4 to 150 mm
- Insensitivity to dirt
- Protection class IP 67

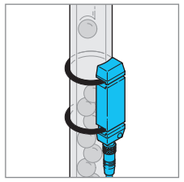
Inductive tube sensors

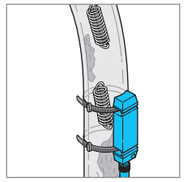
- High resolution
- Short response time
- Static or dynamic operating principle
- Universal mounting
- Low weight
- Compact design
- Automatic elimination of metalliferous contamination
- Protection class IP 67











Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 35 V DC
Sensitivity adjustment	Potentiometer (only IRx …/IRDBx …)
Voltage drop	2,0 V
Shock/vibration loading	30 g_n/10 … 55 Hz, 1 mm (only ISx …)
Speed of parts	< 35 m/s
Pulse stretching	100 ms (only ISx 70 …) / 0,1 … 150 ms (only IR …)
Ambient temperature	–25 … 70 °C
Protection class	IP 67
Insulation voltage endurance	500 V (1.000 V only IRx …/IRDB …)
Display LED	Output yellow, operation green (only ISx 70 …)
Casing material	Polyamide, ring POM (only IRx …/IRDBx 6 …)
	Polyamide, ring POM, ceramic insert (only IRDBx 4 …)
	Polycarbonate (only ISx …)

	Ring diameter (mm)	Evaluation: Static (S)/Dynamic (D)	Internal power consumption (mA)	Resolution, steel ball (mm)	Resolution copper wire (mm)	Output	Connector	Connecting cable	Versions with radial plug connection … RIBS available	Purchase order table* (pnp)	Purchase order table* (npn)
Inductive ring sensors											
	6,1	S	11	1,0	–	200 mA, NO/NC	M12	VK …	■	IR 6 PSOK-IBS	IR 6 NSOK-IBS
		D	20	0,5	–					IRD 6 PSOK-IBS	IRD 6 NSOK-IBS
	10,1	S	11	1,5	–	200 mA, NO/NC	M12	VK …	■	IR 10 PSOK-IBS	IR 10 NSOK-IBS
		D	20	0,6	–					IRD 10 PSOK-IBS	IRD 10 NSOK-IBS
	15,1	S	11	2,0	–	200 mA, NO/NC	M12	VK …	■	IR 15 PSOK-IBS	IR 15 NSOK-IBS
		D	20	0,8	–					IRD 15 PSOK-IBS	IRD 15 NSOK-IBS
	20,1	S	11	2,5	–	200 mA, NO/NC	M12	VK …	■	IR 20 PSOK-IBS	IR 20 NSOK-IBS
		D	20	1,0	–					IRD 20 PSOK-IBS	IRD 20 NSOK-IBS
	25,1	S	11	3,0	–	200 mA, NO/NC	M12	VK …	■	IR 25 PSOK-IBS	IR 25 NSOK-IBS
		D	20	1,2	–					IRD 25 PSOK-IBS	IRD 25 NSOK-IBS
	35,2	S	11	4,5	–	200 mA, NO/NC	M12	VK …		IR 35 PSOK-IBS	IR 35 NSOK-IBS
		D	20	2,0	–					IRD 35 PSOK-IBS	IRD 35 NSOK-IBS
	51,0	S	11	6,0	–	200 mA, NO/NC	M12	VK …		IR 50 PSOK-IBS	IR 50 NSOK-IBS
		D	20	2,5	–					IRD 50 PSOK-IBS	IRD 50 NSOK-IBS
	101,0	S	15	10,0	–	200 mA, NO/NC	M12	VK …		IR 100 PSOK-IBS	IR 100 NSOK-IBS
		D	20	5,0	–					IRD 100 PSOK-IBS	IRD 100 NSOK-IBS
	151,0	S	15	19,0	–	200 mA, NO/NC	M12	VK …		IR 150 PSOK-IBS	IR 150 NSOK-IBS
		D	20	10,0	–					IRD 150 PSOK-IBS	IRD 150 NSOK-IBS
Wire break sensors											
	4,0	S	11	–	0,2	200 mA, NO/NC	M12	VK …		IRDB 4 PSOK-IBS	IRDB 4 NSOK-IBS
		D	20	–	0,1					IRDBD 4 PSOK-IBS	IRDBD 4 NSOK-IBS
	6,1	S	11	–	0,2	200 mA, NO/NC	M12	VK …		IRDB 6 PSOK-IBS	IRDB 6 NSOK-IBS
		D	20	–	0,1					IRDBD 6 PSOK-IBS	IRDBD 6 NSOK-IBS
Inductive tube sensors											
	–	S	15	**	–	200 mA, NO	M8	TK …		IS 70 PSK-TSSL	IS 70 NSK-TSSL
					–		M12	VK …		IS 70 PSLK-K-BS	IS 70 NSLK-K-BS
	–	D	25	**	–	200 mA, NO	M8	TK …		ISD 70 PSK-TSSL	ISD 70 NSK-TSSL [1]
					–		M12	VK …		ISD 70 PSLK-K-BS	ISD 70 NSLK-K-BS [1]
	–	D	25	**	–	200 mA, NO	M8	TK …		ISDP 70 PSK-TSSL	ISDP 70 NSK-TSSL [2]
					–		M12	VK …		ISDP 70 PSLK-K-BS	ISDP 70 NSLK-K-BS [2]

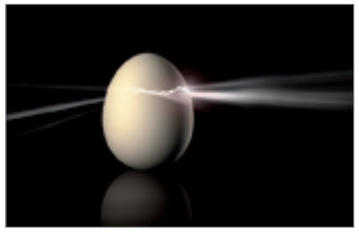
* Excerpt from our delivery programme / ** depending on the feeding hose used

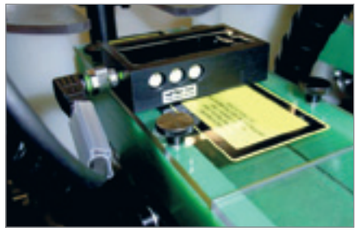
[1] high resolution / [2] insensitive

Further information and types will be found under **www.di-soric.com**

Non-contact detection of movement and standstill

Movements will be safely and contactless detected or measured with optical movement sensors. Radar sensors are used for larger distances and for outdoor use.



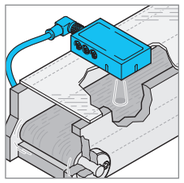


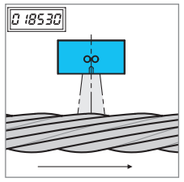
Optical movement sensors

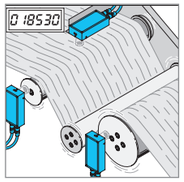
- Incremental outputs for measuring speed, length and rpm
- 2 detection axes (along and across the casing)
- Direction detection
- Working distance 30 mm
- Detection of movement or standstill
- Option of parameterisation using software
- Adjustable pulse stretching
- High protection class
- Robust metal casing

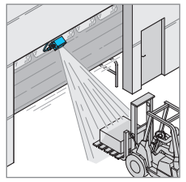
Radar sensors

- Detection range up to 6 m
- Non-contact object detection depending on the direction of movement
- Adjustable detection area and pulse stretching
- Can be fitted behind non-metallic materials
- Wear-free switching outputs
- Switch outputs for approach and remote detection
- High protection class IP 67 for outdoor use
- Robust metal casing









Technical data (typ.)	+20 °C, 24 V DC
Pulse stretching	2 … 1.000 ms adjustable (only OBS 60 …)
	100 ms (only OBS 105 …)
	0,1 … 30 sec. adjustable (only RS 40 …)
Laser class (EN 60825-1)	1M (only OBS xxx …)
Ambient light immunity	5.000 Lux (only OBS xxx …)
Ambient temperature	+5 … +45 °C (only OBS xxx …)
	–20 … +60 °C (only RS 40 …)
Protection class	IP 67
	IP 65 (only OBS 105 …)
Casing material	Aluminium, black anodized (only OBS xxx …)
	Die-cast zinc, black lacquered (only RS 40 …)

	Working distance Material dependent (mm)	Service voltage (V DC)	Internal power consumption (mA)	Infrared laser 850 nm	Radar 24, 125 GHz	Output	Switching output 1: +UB, 100 mA, pnp/npn (push pull), configurable	Switching output 2: +UB, 100 mA, pnp/npn (push pull), configurable	1 switching output for approaching and moving away detection	1 switching output for approaching- and 1 switching output for distance detection	Connector	Connecting cable	Purchase order table*
Optical movement sensor with switching output ⚠													
	30 ± 10	10 … 35	70	■		pnp, 200 mA, NO/NC					M8	TK …	OBS 60 M 30 P3K-TSSL
Optical movement sensor with incremental- and two configurable switching outputs ⚠													
	30 ± 10	10 … 30	50	■		Push pull	■	■			M12	VxHM …	OBS 105 M 30 INC-1
						RS 422							OBS 105 M 30 INC-2
	Connecting cable for 1. axis												VKHM-Z-5/8-A
	Connecting cable for 2. axis/switching outputs												VSHM-Z-5/8-A
	Programming adapter for PC connection												OBS 105 PROG
Radar sensors													
	500 … 6.000 [1]	10 … 35	35		■	1x push pull, 200 mA, NO/NC			■		M12	VK …	RS 40 M 6000 G3L-IBS
						2x push pull, 200 mA, NO/NC				■		VK …/4	RS 40 M 6000 G8L-IBS

* Excerpt from our delivery programme

[1] Value as measured by a person in walking pace. The operating distance is depending on the reflection characteristics and the object speed.

Further information and types will be found under **www.di-soric.com**

Intelligent detection of labels perfect positioning

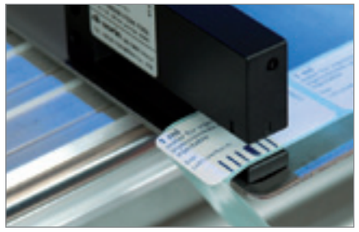
Are you a labelling machine manufacturer or do you work with labels and want to position them exactly on a product? di-soric label sensors detect all label materials and have a high repeat accuracy.

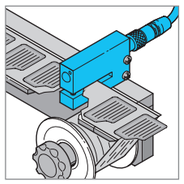
Capacitive label sensors

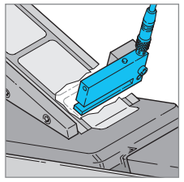
- Detection of all label materials, including metallized ones (KSSTI xx/80)
- High switching frequency
- Autoteach during ongoing processes
- Remote teach possibilities with key-lock function
- Signalling for the teaching process using LEDs
- Temperature and air humidity compensation
- Separable casing for cleaning the sensor slot

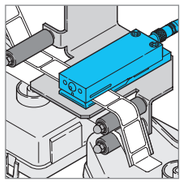
Optical label sensors

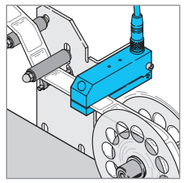
- Can be integrated directly on the dispenser edge
- Autoteach during ongoing processes
- Remote teach possibilities with key-lock function
- Signalling for the teaching process using LEDs
- Detection of the most diverse labels











Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 35 V DC
Operating frequency	< 3.000 Hz (only OGUTI …)
Switching hysteresis	0,1 mm (only OGUTI 00x …/OGUTI 005/100 …)
	0,15 mm (only OGUTI 005/50 …)
	Material dependent (only KSSTI …)
Ambient temperature	–10 … +60 °C (only OGUTI …)
	0 … +60 °C (only KSSTI …)
Protection class	IP 67 (only OGUTI …)
	IP 65 (only KSSTI …)
Casing material	Die-cast zinc, black lacquered (only OGUTI …)
	Aluminium / black anodized (only KSSTI …)

	Fork-/slot width (mm)	Slot depth (mm)	Infrared light 880 nm, clocked	Output	Internal power consumption (mA)	Voltage drop (V)	Ambient light immunity (Lux)	Sensitivity adjustment by means of teach key	Sensitivity adjustment by means of teach key and remote teach	Connector	Connecting cable	Purchase order table*
Optical contrast diffuse sensors												
	2	40	■	pnp, 200 mA, NO/NC	35	2,0	> 100.000	■		M8	TK …	OGUTI 002 P3K-TSSL
									■		TK …/4	OGUTI 002 FP3K-TSSL
	5	40	■	Push pull, 200 mA, NO/NC	35	2,0	> 100.000	■		M8	TK …	OGUTI 005 G3K-TSSL
									■		TK …/4	OGUTI 005 FG3K-TSSL
	5	50	■	Push pull, 200 mA, NO/NC	35	2,0	> 100.000	■		M8	TK …	OGUTI 005/50 G3K-TSSL
									■		TK …/4	OGUTI 005/50 FG3K-TSSL
	5	100	■	pnp, 200 mA, NO/NC	35	2,0	> 100.000	■		M8	TK …	OGUTI 005/100 P3K-TSSL
									■		TK …/4	OGUTI 005/100 FP3K-TSSL
	Capacitive label sensors											
	0,4	50	–	Push pull, 200 mA, NO/NC	70	2,5	–	■		M8	TK …	KSSTI 400 G3K-TSSL
									■		TK …/4	KSSTI 400 FG3K-TSSL
	0,6	50	–	Push pull, 200 mA, NO/NC	70	2,5	–	■		M8	TK …	KSSTI 600 G3K-TSSL
									■		TK …/4	KSSTI 600 FG3K-TSSL
	1,0	50	–	Push pull, 200 mA, NO/NC	70	2,5	–	■		M8	TK …	KSSTI 1000 G3K-TSSL
									■		TK …/4	KSSTI 1000 FG3K-TSSL
	0,6	85	–	Push pull, 200 mA, NO/NC	70	2,5	–		■	M12	VK …/4	KSSTI 600/80 FG3LK-IBS
	1,0								■			KSSTI 1000/80 FG3LK-IBS
	0,6	85	–	Push pull, 200 mA, NO/NC	70	2,5	–		■	M12	VK …/4	KSSTI 600/80 FG3LK-AIBS
	1,0								■			KSSTI 1000/80 FG3LK-AIBS
	Accessories											
	Bottom part for mounting on KSSTI xx/80 … for label widths up to 175 mm.											KSSTI 1000/80-U190
	Bottom part for mounting on KSSTI xx/80 … for label widths up to 215 mm.											KSSTI 1000/80-U270

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

Reliably monitoring presence

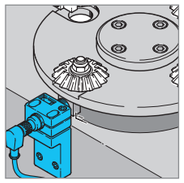
Depending on the functional principle, proximity switches detect metallic or non-metallic materials. Various designs and versions offer a diverse range of possible applications.

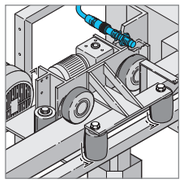
Inductive proximity switches

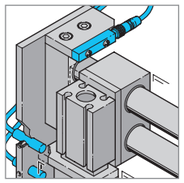
- High temperature-resistant versions up to 230 °C
- Pressure-resistant versions up to 500 bar
- Versions with closed VA sleeve
- Weld-proof and versions resistant to magnetic fields
- Sensing distances up to 4 times more than normal switching distance
- Versions with analogue output
- Versions resistant to food and sea water
- Designs ø 3 mm up to M 30
- Cuboid designs from 5 x 5 mm to 41 x 80 x 100 mm

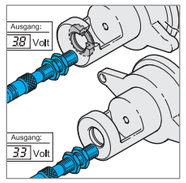
Capacitive proximity switches

- Detection of: fluid, powdery, solid, electrically conductive and non-conductive materials
- Sensing distances adjustable up to 30 mm
- Probe for level measurement
- Designs ø 6,5 mm to M 30
- Disk design ø 50 x 10 mm
- Cuboid form 34 x 16 x 8 mm









* for all current types

Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 30
	some versions with extended service voltage range 10 … 35 V DC
Internal power consumption	< 6 … 15 mA
Protection class	IP 67
Ambient temperature	–25 … +70 °C

	Size (mm)	Operating frequency (Hz)	Output	Casing material	Connector	Connecting cable	Operating distance (mm)	Flush-fitted(b)/non flush-fitted (nb)/quasi flush-fitted (qb)	Purchase order table*	Operating distance (mm)	Flush-fitted(b)/non flush-fitted (nb)/quasi flush-fitted (qb)	Purchase order table*
	Inductiv proximity switches in cylindrical designs											
	Ø 3 x 22	5.000	pnp, 100 mA, NO	VA	–	2,0 m, PUR	0,6	b	DCC 3.0 V 0.6 PSLK	1,0	b	DCC 3.0 V 1.0 PSLK
	Ø 4 x 25	3.000	pnp, 200 mA, NO	VA	–	2,0 m, PVC	0,8	b	DCC 4.0 V 0.8 PSLK	1,5	b	DCC 4.0 V 1.5 PSLK
	Ø 6.5 x 16	5.000	pnp, 200 mA, NO	VA	–	2,0 m, PVC	1,5	b	DCCKR 6.5 V 1.5 PSLK	2	b	DCCKR 6.5 V 02 PSLK
	M4 x 0,5	5.000	pnp, 100 mA, NO	VA	M8	TK …	0,6	b	DCC 04 M 0.6 PSK-K-TSL	1,0	b	DCC 04 M 1.0 PSK-K-TSL
	M5 x 0,5	3.000	pnp, 200 mA, NO	VA	M8	TK …	1,5	b	DCC 05 V 1.5 PSK-TSL	2,5	b	DCC 05 V 2.5 PSK-TSL
	M8 x 1	5.000	pnp, 200 mA, NO	VA	M8	TK …	1,5	b	DCCK 08 M 1.5 PSK-TSL	2	b	DCC 08 M 02 PSK-TSL/29
	M8 x 1	500	pnp, 200 mA, NO	MS	M8	TK …	3	qb	DCC 08 M 03 PSK-TSL	6	nb	DCC 08 M 06 PSK-TSL
	M12 x 1	300	pnp, 200 mA, NO	MS	M12	VK …	6	qb	DCC 12 M 06 PSK-IBSL	8	qb	DCC 12 M 08 PSK-IBSL
	M12 x 1	400	pnp, 200 mA, NO	MS	M12	VK …	2	b	DCC 12 M 02 PSK-IBSL	10	nb	DCC 12 M 10 PSK-IBSL
	Inductiv proximity switches in rectangular designs											
	5 x 5 x 25	5.000	pnp, 200 mA, NO	MS	–	2,0 m, PUR	0,8	b	DCCQ 05 M 08 PSLK	1,5	b	DCCQ 05 M 1.5 PSLK
	8 x 8 x 40	2.000	pnp, 200 mA, NO	AL	–	2,0 m, PUR	–	–	–	1,5	b	DCQZ 08 M 1.5 PSLK
	8 x 8 x 59	1.000	pnp, 200 mA, NO	MS	M8	TK …	2,0	b	DCCQ 08 M 02 PSK-TSL	3,0	qb	DCCQ 08 M 03 PSK-TSL
	28 x 16 x 10	2.000	pnp, 200 mA, NO	Ks	M8	TK …	–	–	–	2,0	b	DCR 30 K 02 PSK-TSL
	30 x 20 x 11,5	3.000	pnp, 200 mA, NO	AL	M8	TK …	–	–	–	1,5	b	DCR 20 M 1.5 PSK-K-TSL
	40 x 26 x 12	2.000	pnp, 200 mA, NO	Ks	M8	TK …	2,0	b	DCR 40 K02 PSK-TSL	4,0	nb	DCR 40 K04 PSK-TSL
	Inductiv proximity switches with stainless steel housing											
	M8 x 1	1.000	pnp, 200 mA, NO	VA	M8	TK …	3	b	D7C 08 V 03 PSK-TSL	6	nb	D7C 08 V 06 PSK-TSL
	M12 x 1	400	pnp, 200 mA, NO	VA	M12	VK …	6	b	D7C 12 V 06 PSK-IBSL	10	nb	D7C 12 V 10 PSK-IBSL
	M18 x 1	200	pnp, 200 mA, NO	VA	M12	VK …	10	b	D7C 18 V 10 PSK-IBSL	20	nb	D7C 18 V 20 PSK-IBSL
	M30 x 1,5	100	pnp, 200 mA, NO	VA	M12	VK …	20	b	D7C 30 V 20 PSK-IBSL	40	nb	D7C 30 V 40 PSK-IBSL
	Capacitive proximity switches											
	Ø 6.5 x 54	100	pnp, 50 mA, NO	VA	M8	TK …	1,5	b	KDC 6.5 V 1.5 PSK-TSL	3,0	nb	KDC 6.5 V 03 PSK-TSL
	Ø 50 x 10	50	pnp/npn, 150 mA, NO/NC	Ks	–	2,0 m, PUR	25	b	KDC 50 K 25 PNSOLK	–	–	–
	M8 x 1	100	pnp, 50 mA, NO	VA	M8	TK …	1,5	b	KDC 08 V 1.5 PSK-TSL	3,0	nb	KDC 08 V 0.3 PSK-TSL
	M12 x 1	100	pnp, 200 mA, NO	VA	M12	VK …	4	b	KDC 12 M 04 PSK-IBSL	–	–	–
	M18 x 1	100	pnp, 200 mA, NO	VA	M12	VK …	8	b	KDC 18 M 08 PSK-IBSL	–	–	–
	M18 x 1	100	pnp, 200 mA, NO	Ks	M12	VK …	–	–	–	15	nb	KDC 18 K 15 PSK-IBSL
	M30 x 1,5	100	pnp, 300 mA, NO/NC	VA	M12	VK …	20	b	KDC 30 M 20 PSOK-BSL	–	–	–
	34 x 16 x 8	100	pnp, 50 mA, NO	Ks	–	2,0 m, PUR	8	b	KDCR 16 K 08 PSLK	8	nb	KDCR 16 K 08S PSLK

Flush mounting (b)	**Quasi-flush mounting** (qb)	**Non-flush mounting** (nb)
These proximity switches can be mounted in all materials (metallic/non-metallic), so that the sensing face is flush with the front of the surrounding material. They have the following advantages: - Flush mounting (see installation notes) in conductive materials (metals) - Protection of the active zone from mechanical damage - Lower influence of external interference fields - Lower lateral distance to the next proximity switch	These proximity switches possess a higher operating distance than proximity switches for flush-mounting. They may be mounted into conductive materials only quasi-flush mounted, i. e. not completely flush mounted. The proximity switches must exceed a little bit over the installation surface (see installation notes). Flush mounting in non-conductive materials is permissible.	These proximity switches must not be flush-mounted with the surface of conductive materials. They have the greatest possible operating distance. Special installation notes are applicable for these proximity switches. Flush mounting in non-conductive materials is permissible.

* Excerpt from our delivery programme

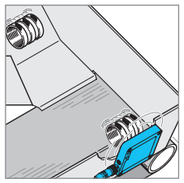
Further information and types will be found under **www.di-soric.com**

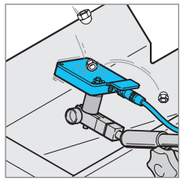
Every contact counts

Striking parts produce structure-borne noise, which is converted into a standard output signal.

Contact and vibration sensors

- Detects with direct contact to ejected parts or parts in free fall
- For screws, studs, springs and non-metallic parts
- Adjustable suppression of multiple pulses
- Up to 100 parts can be detected per second
- Long service life thanks to replaceable baffle plate
- Functional assurance even under the most extreme conditions





di-kus®

CE

Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 35 V DC
Sensitivity adjustment	Steel ball Ø 3 mm from 20 mm height
Pulse stretching	1 … 30 ms
Ambient temperature	–25 … +70 °C
Protection class	IP 67
Internal power consumption	> 15 mA
Operating frequency	< 100 Hz

		Size (mm)	Output	Casing material	Connector	Connecting cable	
	Contact sensors						**Purchase order table***
	Sensor incl. baffle plate	50 x 75 x 14	pnp, 200 mA, NO	Aluminium Heat-treatable steel	M8	TK …	KUSP 50 M 100 PSK-TSL
	Sensor	50 x 55 x 10	pnp, 200 mA, NO	Aluminium	M8	TK …	KUS 50 M 100 PSK-TSL
	Accessories						
	Baffle plate	50 x 75 x 4		Heat-treatable steel			P-KUS 50
	Damper set for mounting						D-KUS 50
	Magnetic fixing device		Adhesive force 50 kg	Steel			MSH-300

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

Piston position
detected through the wall

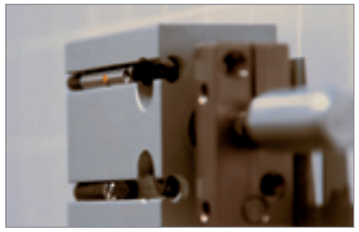
Cylinder sensors are designed for pneumatic cylinders with integrated magnets. The piston position is detected through the cylinder wall.

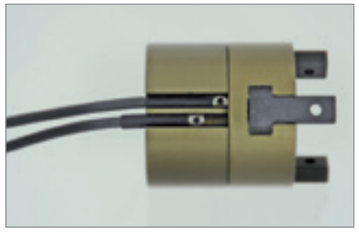
Cylinder sensors

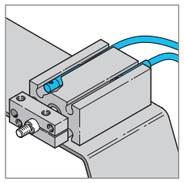
- For all common pneumatic cylinders
- Versions which can be fitted from above
- High reproducibility
- Vibration-resistant
- Robust metal casing or shock-proof plastic casing
- Fastening elements made from metal
- High protection class
- Weld-proof versions

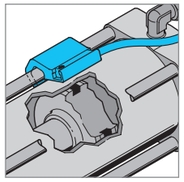
Sensors for gripper systems

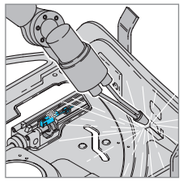
- Specially aligned magnetic field for using on gripping tongs
- High reproducibility
- Short construction
- Fastening element made from stainless steel
- Vibration-resistant
- High protection class

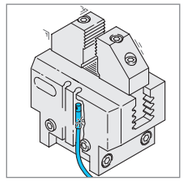












Technical data (typ.)	+20 °C, 24 V DC
Service voltage	10 … 30 V DC
Output	Transistor pnp / NO
Voltage drop	2,0 V
	2,5 V only MZEx 9-xx …
Operating frequency	1.000 Hz
Ambient temperature	–25 … +70 °C
	–25 … +80 °C (only MZEx 9-xx …)
Insulation voltage endurance	500 V
Casing material	Die-cast zinc
	Plastic and V2A (only MZEC 3.7…/MZES 3.9…)
	V2A (only MZEC 4.0…)
	Polyamide, fixing aid stainless steel (only MZEx 9-xx …)

	Size (mm)	Type of mounting	Flush-fitted(b)/ non flush-fitted (nb)	Strombelastbarkeit	Short-circuit-proof	Polarity-safe	Internal power consumption	Reproducibility	Protection class	Type of connection: Cable length/connector (mm)	Matching connecting cable	Connecting cable PUR; Welding spark resistant	Bestelltabelle*
	Cylinder sensors for C-shaped slot												
	Ø 3,7 x 21		b	100 mA		■	11 mA	0,1 mm	IP 68	2.500 / –	–	■	MZEC 3.7 PSL
										300/M8	TK…		MZEC 3.7 PS-K-TSSL
	Ø 4,0 x 25		b	100 mA		■	11 mA	0,1 mm	IP 68	2.500 / –	–	■	MZEC 4.0 PSL
										300/M8	TK…		MZEC 4.0 PS-K-TSSL
	2,8 x 7,7 x 17,5		nb	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000 / –	–		MZEC 9-18 PSL
										300/M8	TK…		MZEC 9-18 PSL-K-TSS
	2,8 x 5 x 25,8		nb	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000 / –	–		MZEC 9-26 PSL
										300/M8	TK…		MZEC 9-26 PSL-K-TSS
	Cylinder sensors for T-shaped slot												
	6,1 x 5 x 25		b	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500 / –	–	■	MZET 25 PSLK
										300/M8	TK…		MZET 25 PSK-K-TSSL
	6,1 x 5 x 25		nb	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500 / –	–	■	MZET 28 PSLK
										300/M8	TK…		MZET 28 PSK-K-TSSL
	5 x 7 x 20		nb	200 mA	■	■	10 mA	0,1 mm	IP 68	M8	TK…		MZERT 20 PSK-TSSL
	5,2 x 5 x 25		b	200 mA	■	■	10 mA	0,1 mm	IP 68	2.500 / –	–	■	MZEK 25 PSLK
										300/M8	TK…		MZEK 25 PSK-K-TSSL
	5 x 6,5 x 25		b	100 mA	■	■	10 mA	0,2 mm	IP 67	2.000 / –	–		MZET 9-25 PSL
										300/M8	TK…		MZET 9-25 PSL-K-TSS
										300/M12	VK…		MZET 9-25 PSL-K-IBS
	Sensors for gripper systems for C-shaped slot												
	Ø 3,9 x 21		b	100 mA		■	12 mA	0,1 mm	IP 67	2.500 / –	–	■	MZES 3.9 PSL
										5.000 / –	–	■	MZES 3.9 PSL/5
										300/M8	TK…		MZES 3.9 PS-K-TSSL
										600/M8	TK…		MZES 3.9 PS-K0.6-TSSL
	Sensors for gripper systems for T-shaped slot												
	6,1 x 5 x 25		b	100 mA		■	12 mA	0,1 mm	IP 67	2.500 / –	–	■	MZES 25 PSL
										300/M8	TK…		MZES 25 PS-K-TSSL
										2.500 / –	–	■	MZEKS 25 PSL
										300/M8	TK…		MZEKS 25 PS-K-TSSL

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

The measured way to keep a distance

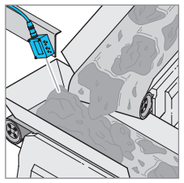
Distance sensors with switching and/or analogue output use infrared or laser light. The field of applications are e. g. height/loopcontrol on conveyor beets up to accurate measurement of distances on linear units.

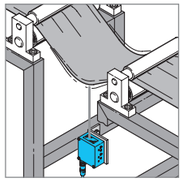
Distance sensors LHT 9-45 …

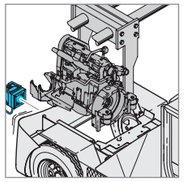
- Large range; up to 10 m
- Red light laser for simple alignment
- Switching and analog output parametrizable/linearized
- Four-digit display parametrizable
- Very good colour and surface independence
- Robust metal casing
- High protection class

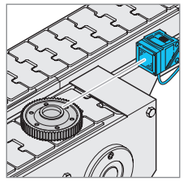
Diffuse sensors OAA …

- Two independently adjustable switching outputs
- Non linearized analog output 4 … 20 mA
- Suitable for uneven surfaces
- Very good colour independence
- Robust metal casing
- High protection class









CE

Technical data (typ.)	+20 °C, 24 V DC
Load resistance	500 Ω (only OAA …)
Load resistance	4 … 20 mA, max. 250 Ω (only LHT 9-45 M 10 P3IU-B4)
	0 … 10 V, min. 5.000 Ω (only LHT 9-45 M 10 P3IU-B4)
Threshold	0 … 100 % adjustable (only OAA …)
	2 … 100 % adjustable (only LHT …)
Internal power consumption	< 60 mA (only OAA …)
	< 150 mA (only LHT …)
Ambient temperature	–10 … +60 °C
Ambient light immunity	> 2.000 Lux with 30 ° incoming light angle (only OAA …)
	> 8.000 Lux (only LHT …)
Protection class	IP 67 (only OAA …)
	IP 65 (only LHT …)
Protection degree	Operation with class 2 supply voltage
Casing material	Aluminium, black anodized (only OAA …)
	Die-cast zink, black lacquered (only LHT …)
Window casing	Glass

	Detection range (mm)	Size (mm)	Infrared light 880 nm, clocked	Red light laser 650 nm, clocked (Laser class 2)	Output (I): Transistor pnp, 200 mA, NO/NC switchable, short-circuit-proof	Output (I): Transistor pnp, 200 mA, NO/NC programmable	Output (II): 4 … 20 mA, unlinearised	Output (II): NO/NC programmable or analog (4 … 20 mA/0 … 10 V scalable)	Service voltage (V DC)	Max. operating frequency (Hz)	Output sequence frequency (Hz)	Diameter of light spot (mm)	Connector	Connecting cable	Purchase order table*
	Distance sensors														
	200 … 10.000	45 x 52 x 42		■		■			10 … 30	5		Ø 6	M12	VK …	LHT 9-45 M 10 P3-B4 [1]
								■	18 … 30	5	1 … 33			VK … /4	LHT 9-45 M 10 P3IU-B4 [1]
	Diffuse sensors														
	20 … 280	60 x 60 x 30	■		■		■		15 … 35	10	24	Ø 7 … 26	M12	VK … /5	OAA 280 IPP3K-IBS
	80 … 800											Ø 7 … 26			OAA 800 IPP3K-IBS
	180 … 1.500											Ø 15 … 26			OAA 1500 IPP3K-IBS

* Excerpt from our delivery programme

[1] Digital display

Position detection using echoes

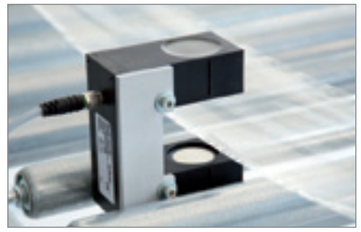
Ultrasonic sensors are used to measure distance in automation tasks. These sensors measure the duration of the noise and can thereby detect even transparent, fluid and powdery objects.

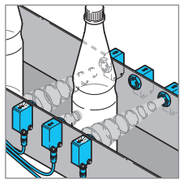
Ultrasonic sensors

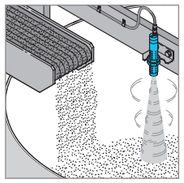
- Dirt resistant
- Insensitive to noise interference
- High resolution
- High cycle speed
- Measures independent of surface
- Operational range up to 6 m
- Synchronisation input/release input
- Analog/digital output

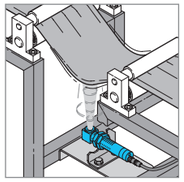
Ultrasonic fork sensors

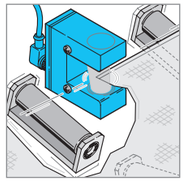
- Large linearized analog range
- Very high repeatability
- Web edge control also with transparent materials
- Dirt resistant
- Robust metal casing











Technical data (typ.)	+20 °C, 24 V DC
Service voltage	18 … 30 V DC
	some versions are available with advanced operating range of 12 … 36 V DC

	Scanning distance (mm) / Fork opening / Measuring range (mm)	Size (mm)	Sound output	Switching output (Transistor pnp)	Analog output	Repeat accuracy	Ambient temperature (°C)	Protection class	Casing material	Connector	Connecting cable	Purchase order table*
Ultrasonic distance sensors												
	20 … 150	M12 x 91	Axial	100 mA, NO/NC	–	0,5 %	–25 … 70	IP 65	Brassnickel-plated	M12	VK…/4	USTI 12 MFB 150 PSOK-IBSL
				–	0 … 10 V							USTI 12 MFB 150 A-IBSL
				–	4,0 … 20 mA							USTI 12 MFB 150 I-IBSL
	20 … 200	M12 x 70	Axial	100 mA, NO/NC	–	0,5 %	–25 … 70	IP 65	Brassnickel-plated	M12	VK…/4	USTI 12 M 200 PSOK-IBSL
				–	0 … 10 V							USTI 12 M 200 A-IBSL
				–	4,0 … 20 mA							USTI 12 M 200 I-IBSL
	180 … 1.000	M18 x 90	Axial	100 mA, NO	–	2 %/Sn max.	–20 … 50	IP 67	Polyamide	Kabel 2,0 m		US 18 K 1003 PSLK
		M18 x 96	Radial									US 18 KR 1003 PSLK
	180 … 1.000	M18 x 90	Axial	100 mA, NO	1,6 … 10 V	2 %/Sn max.	–20 … 50	IP 67	Polyamide	M8	TK…/4	US 18 K 1003 PSAK-TSSL
		M18 x 96	Radial									US 18 KR 1003 PSAK-TSSL
	180 … 1.000	M18 x 90	Axial	100 mA, NO	1,8 … 10 V	2 %/Sn max.	–20 … 50	IP 67	V2A	M8	TK…/4	US 18 V 1003 PSAK-TSSL
	100 … 700	M18 x 63,5	Axial	150 mA, NO	–	1 mm	–25 … 70	IP 67	Brassnickel-plated	M12	VK…/4	USCTI 18 M 700 FPSK-BSL
		M18 x 81,5	Radial									USCTI 18 MR 700 FPSK-BSL
	150 … 1.000	M18 x 101	Axial	150 mA, NO	–	2 mm	–25 … 70	IP 67	Brassnickel-plated	M12	VK…/4	USC 18 M 1000 IPSK-IBSL
				–	4,0 … 20 mA							USC 18 M 1000 I4/20-IBSL
	200 … 1.300	M30 x 131	Axial	300 mA, NO	–	2 mm	–25 … 70	IP 65	Brassnickel-plated	M12	VK…/4	USC 30 M 1300 IPSK-BSL
	600 … 6.000	M30 x 153			0 … 10 V	9 mm					VK/5 …	USC 30 M 6000 I0/10PSK-BSL
	600 … 6.000	M30 x 153			4,0 … 20 mA	9 mm					VK/5 …	USC 30 M 6000 I4/20PSK-BSL
	120 … 500	46 x 30 x 18	Radial	100 mA, NO	–	–	–20 … 50	IP 67	Polyamide V2A	M8	TK …	US 46 K 500 PSK-TSSL
	80 … 500	60 x 41 x 32	Radial	100 mA, 2 x NO	–	1 %/Sn max.	–20 … 50	IP 67	Polyamide	M8	TK…/4	US 60 K 500 PSS-TSSL
	250 … 2.500	60 x 41 x 33		100 mA, NO	5,6 … 20 mA							US 60 K 2500 PSI-TSSL
	400 … 5.000	60 x 41 x 38		100 mA, NO	5,3 … 20 mA							US 60 K 5000 PSI-TSSL
Ultrasonic retroreflective sensors												
	0 … 200	M18 x 63,5	Axial	150 mA, NO	20 … 30 V	–	–25 … 70	IP 67	Brassnickel-plated	M12	VK…/4	USCRTI 18 M 200 FPSK-BSL
												USCRTI 18 M 200 FPSK-BSL
	0 … 700	M18 x 81,5	Radial	150 mA, NO	20 … 30 V	–	–25 … 70	IP 67	Brassnickel-plated	M12	VK…/4	USCRTI 18 MR 700 FPSK-BSL
												USCRTI 18 MR 700 FPSK-BSL
Ultrasonic through beam sensors												
	0 … 1.500	Receiver	Radial	100 mA, NO	–	–	–20 … 50	IP 67	Polyamide V2A	M8	TK …	USE 46 K 1500 PSKT-TSSL
		Transmitter		–	–	–						USS 46 K 1500-TSSL
Ultrasonic fork sensors												
	30/8	74 x 30 x 65		–	0 … 10 V	0,15 mm [1]	0 … 60	IP 67	Aluminium anodized	M12	VK…/4	USGT 30/8 A-B4
	40/13	92 x 39 x 80		–								USGT 40/13 A-B4
	60/8	104 x 30 x 65		–								USGT 60/8 A-B4
	70/13	122 x 39 x 80		–								USGT 70/13 A-B4

* Excerpt from our delivery programme

[1] at 50% coverage

Further information and types will be found under **www.di-soric.com**

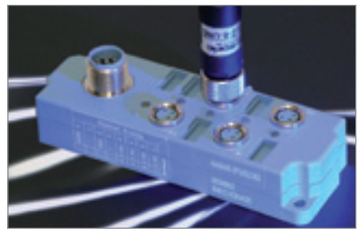
di-soric

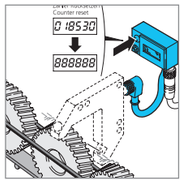
Matching equipment for di-soric sensors

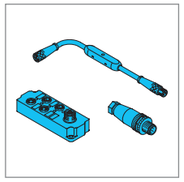
A comprehensive range of accessories rounds off the wide range of sensors and offers you virtually all the options possible.

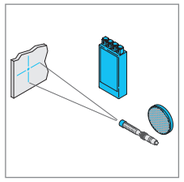
Accessories

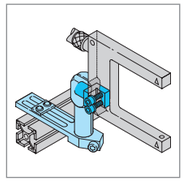
- Sensor tester
- Counting module with reset function in M8 and M12 versions
- M8 and M12 multifunctional adapter:
  - pnp threshold switch
  - npn/pnp converter, pnp/npn converter
  - pnp inverter
  - pnp antivalent signal
  - pnp pulse stretcher
- Logic distributor
- Sensor clamp
- Connector
- Connecting cables
- M8/M12 and M12/M8 adapter plugs
- Power supply with relay
- Reflectors
- Mounting brackets











	Size (mm)	Number of wires	Plug	Cable length (m)	Mounting	Metal nut	Max. service voltage allowed (VAC/DC)	Connector PU; Cable PVC, PU-coating	Temperature resistant up to (°C)	Protection class	Purchase order table*
	Connecting cable										
	M8	3	straight	2,5	–	■	60	■		IP 67	TKHM - Z - 2,5
				5,0							TKHM - Z - 5
		4		2,5							TKHM - Z - 2,5/4
				5,0							TKHM - Z - 5/4
	M8	3	angled	2,5	–	■	60	■		IP 67	TKHM - W - 2,5
				5,0							TKHM - W - 5
		4		2,5							TKHM - W - 2,5/4
				5,0							TKHM - W - 5/4
	M12	4	straight	2,5	–	■	250	■		IP 67	VKHM - Z - 2,5/4
				5,0							VKHM - Z - 5/4
	M12	4	angled	2,5	–	■	250	■		IP 67	VKHM - W - 2,5/4
				5,0							VKHM - W - 5/4
	Reflectors for infrared and red light										
	Ø 19 x 6	–			M3 x 9				80		R 21 M3
	Ø 50 x 8	–			adhesive				80		R 50
	50 x 80 x 7	–			adhesive				80		R 50 x 80
	Reflectors with laser light										
	13 x 17 x 4				adhesive				80		RL 13 x 17
	42 x 35 x 8,4				Ø 3,3 (2x)				80		RL 42 x 35
	Pulse stretching										
	pnp	M8/3-poled		1 … 150 ms	Operating frequency < 500 Hz						TKHM-Z/TSM-Z/T
	pnp	M12/3-poled		1 … 150 ms	Operating frequency < 500 Hz						VKHM-Z/VSM-Z/T

	Mounting bracket				
		For fork- / angled light barriers Hole spacing 8 mm			SH-UGU-08-14
		For fork light barriers Hole spacing 20 mm			SH-UGU-20-14
		For cylindrically designed casings			
		A	D	SH …	
		4	10	SH-4-10	
		5	10	SH-5-10	
		6,5	10	SH-6.5-10	
		8	10	SH-8-10	
		12	10	SH-12-10	
		For photoelectric sensors size 50			SH-S50-34-44-14

Sensor holder						
	Angle clamp					
	A	B	C	D	E	
	10			16	18	SH-WST-L-10-U
	14			18	18	SH-WST-L-14-U
	20			25	40	SH-WST-JU-20-U
	A	B	C	D	E	
	10	40	16			SH-WSL-L-10-40-U
	14	40	18			SH-WSL-L-14-40-U
	20	60	24			SH-WSL-X-20-60-U
	Angle arm					
	A	B	C	D	E	
	10	30	10			SH-WKA-10-10-30
	10	60	10			SH-WKA-10-10-60
	10	90	10			SH-WKA-10-10-90
	Articulated arm					
	A	B	C	D	E	
	10	30	10			SH-GLA-10-10-30
	10	60	10			SH-GLA-10-10-60
	10	90	10			SH-GLA-10-10-90

* Excerpt from our delivery programme

Further information and types will be found under **www.di-soric.com**

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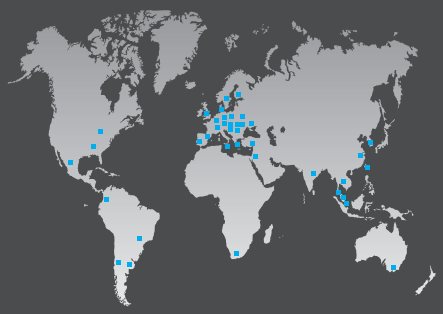

Europe
Asia
Australia
North America
South America
Africa